

**420-TP-017-001**

# **Release B.1 Earth Science Data Model for the ECS Project**

**Technical Paper**

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## Abstract

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This technical paper contains the Earth Science Data (Conceptual) Model, which organizes and describes the metadata for the Earth Observation System Data and Information System Core System (ECS) for the Release B.1 design. This technical paper represents design modifications to the Release B.0 Earth Science Data Model published in February 1997 (Reference 420-TP-015-001). The Data Model includes diagrams that graphically illustrate the relationships of classes, the attributes contained within the classes, the characteristics of the relationships between classes, and the attribute specifications. The specifications are defined in alphabetical order for cross reference to the diagrams.

The relationships and information among the data objects are described as they are understood and used within the Earth Science Community.

**Keywords:** Database, Design, Specifications, Dictionary, Metadata, Data, Model, ESDT, CSDT, Files, Directory, Inventory

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# **1. Introduction**

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## **1.1 Purpose**

The purpose of this technical document is to provide a baseline for the Release B.1 Earth Science Data Model for the ECS Project which illustrate, specify, and communicate the design of the ECS earth science metadata. This technical paper represents the Release B.1 design of the ECS earth science data model, useful to designers, developers, and managers. The earth science metadata model represented in this document is a practical means of assuring the consistency of data requirements across subsystems and releases, and supporting the data standardization necessary for total system interoperability within a heterogeneous open systems environment.

## **1.2 Organization**

This paper is organized in accordance with ESDIS standard format. A description of the document content follows:

- a. Section 2 contains the B.1 Earth Science object model, class descriptions, and attribute specifications.

Questions regarding technical information contained within this Paper should be addressed to the following ECS contacts:

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## 2. Release B.1 Earth Science Data Model

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### 2.1 Release B.1 Earth Science Data Model: ERD Diagrams

The B.1 Earth Science Data Model consists primarily of metadata that can be mapped to the upper layers of the data pyramid. This metadata describes the details of large amounts of data that are generally associated with the remaining levels of the data pyramid and archived in various media and format. Data other than metadata are pointed to in the diagrams (e.g., Granules for Levels 0 through 4, Documents, Algorithms, Production History, Statistics.)

Primary design modifications since the B.0 Earth Science Data Model for the ECS Project (420-TP-015-001) are listed below:

- a. Graphical representation changed to Entity - Relationship Diagrams (ERD).
- b. Normalization of the data model to reduce redundant data elements.
- c. Incorporation of comments received from the Metadata Workshop.
- d. Refinement of multitype collection concepts.
- e. Clarification of the granule/collection relationship with respect to metadata.
- f. Addition of Gazetteer, Keyword, and Advertisements conceptual models.
- g. Incorporation of Temporal Attributes into collection and granule classes.

There are two changes in the B.1 Science Data Model from the B.0 version that have a significant benefit for a science user of ECS. The first of these involves the representation of vertical extent of granules and the other is the use of keywords.

Attributes have been added to the B.1 data model to allow the explicit description of the vertical extent of a granule using appropriate numeric units (MinimumAltitude, MaximumAltitude, MinimumDepth, MaximumDepth). In this manner, the vertical coordinate is treated equally with the horizontal coordinates (e.g., bounding rectangle, circle, point, etc.). The use of keywords at the granule level to represent the vertical extent of the granule is no longer necessary nor possible, but are now defined at the collection level..

A new “Stratum” keyword type has been created to allow the addition of collection-specific stratum keywords (e.g. “Top of Atmosphere”). The Stratum keyword definition includes attributes to define the vertical extent of the stratum keyword (MinimumAltitude, MaximumAltitude). These attributes are intended to be used (if appropriate) with the a stratum keyword at the collection level. An example would be the CERES stratum keyword “TOA”. At the collection level this keyword would be defined and its vertical extent stated. Using this information the client will be able to formulate a granule level query to locate all “TOA” granules based on their explicit vertical extents.

The second major change in the B.1 data model benefiting the science user is the consolidation of all collection level keywords under a generic Keyword Class. Keywords are now organized into four types (i.e., Spatial keywords, Temporal keywords, Theme keywords and Stratum keywords), and attributes have been added to capture the source, description, spatial and temporal extents (if any) of all keywords. Keywords in B.1 are treated consistently and within context. In conjunction with the keyword consolidation, consistency with the Gazetteer function of the Client has been promoted. While keywords can be defined for any desired spatial extent, the list of geographic features (e.g. North America) used in the Gazetteer can be selected as Spatial keywords.

A number of changes have been made to the B.0 data model through a ‘data normalization’ process. These changes were made to eliminate redundant data structures and attributes. These changes will have little impact if any on the science content of the data model but will improve the population and update of science metadata. The major normalization changes are summarized below by submodule.

The Contact module is used to capture all information relative to individuals and organizations. The relationships between individuals and organizations and Collections, Documents and DAP/SSAP is captured using specific Roles. An example would be the relationship between Contact and Document in which a person would have the role of “Author”.

The Temporal module no longer exists. Attributes which characterize the temporal extent of a Collection have been associated directly to the ECSCollection class (e.g. RangeDateTime). This includes the attributes which characterize the Date and Time types for the entire collection which have been added to ECSCollection class. The same is true of granule-level temporal attributes which have been added to ECSDataGranule.

The Document module has been streamlined and a number of individual documents which appeared in the previous versions of the model have been “rolled-up” into their parent classes. An example is ArchiveCenterGuide which has been rolled up into the parent class Guide as a “type”.

The spatial reference system and spatial extent attributes for collections and granules have been split. Each Single Type Collection is associated with one horizontal and (optionally) one vertical reference system. Each collection and granule are associated with a set of collection or granule specific attributes used to characterize the appropriate spatial extent in the x,y,z dimensions.

The DAP/SSAP module has been revised to reflect design decisions.

A number of other attributes have been added (e.g. LastReviewdate, ObservationFrequency) based on science user input.

### **2.1.1 Explanation of the Conceptual Data Model/ERD**

The Earth Science Data Model is very large and not suited to be displayed legibly in a single diagram; therefore, it is logically segmented into modules for the purpose of readability. The eight modules, when concatenated, represent the entire Earth Science Data Model.

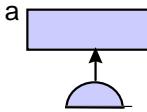
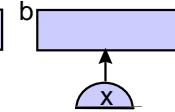
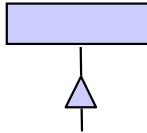
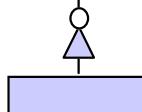
Offpage connectors are included in the global diagram (Figure 2-2), as required, to allow for relationships to classes within various other modules. Offpage connectors are not, however, included in the diagrams of the submodules (Figures 2-3 through 2-11). Offpage connectors are also used to relate the data that involve classes of data that are not in the Earth Science Data Model. Those attributes having the term “pointer” included in the attribute name indicate that a data object is external to the metadata and a link to the data object must exist.

In this section the various modules are represented by Entity-Relationship Diagrams (ERD) diagrams (Figures 2-2 through 2-11). The specifications for the attributes within each class are found in Section 2.1.3.

An explanation of the differences in representation between ERD (S-Designer) and OMT is presented in Figure 2-1.

Table 2-1 provides definitions for the datatypes used in the B.1 Data Model.

# ERD Mapping (S-Designer to OMT)

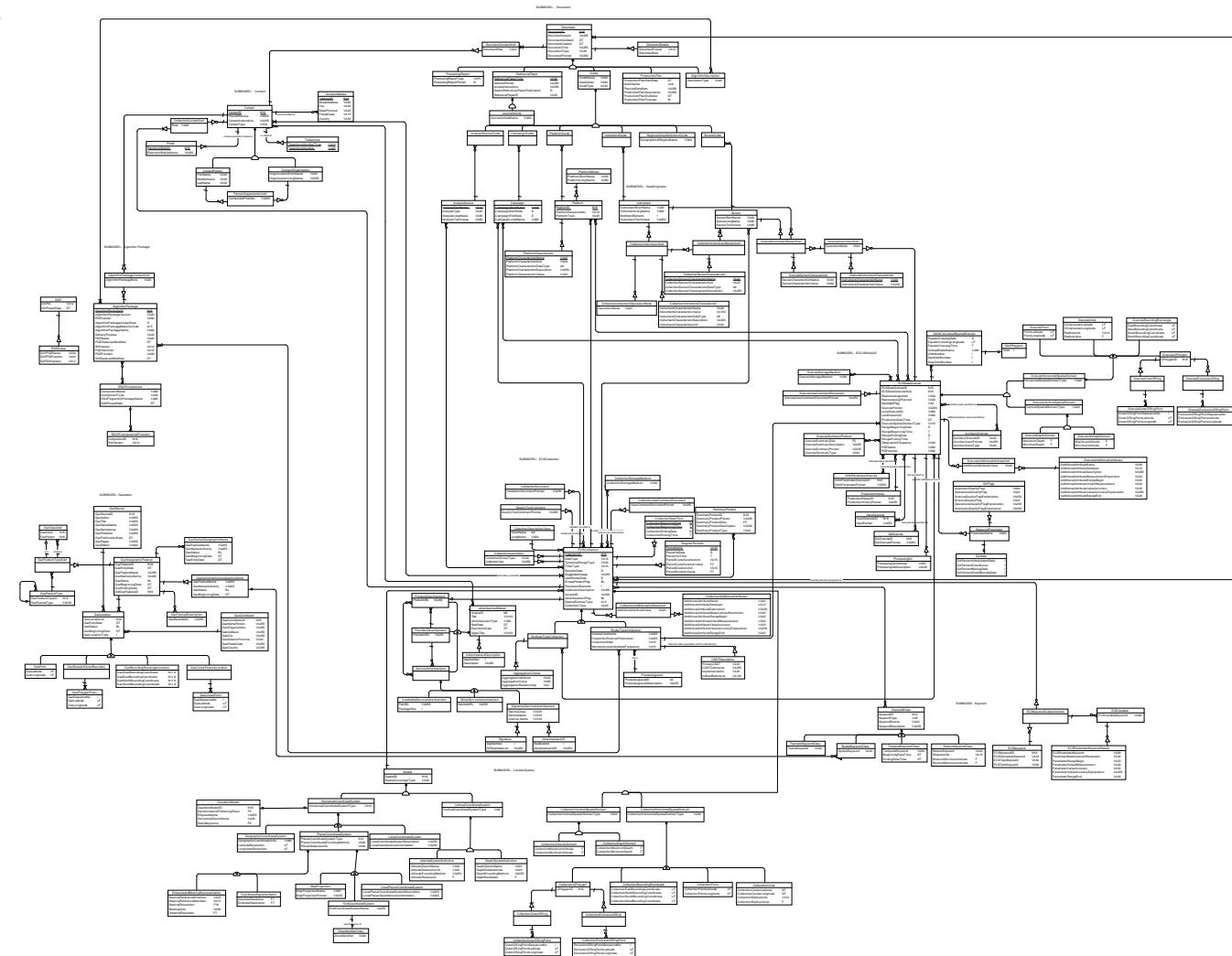
Multiplicity of Associations	S-Designer	OMT
Exactly One		
Many (zero or more)		
Optional (zero or one)		
One or More		
Inheritance (non-exclusive (a) and exclusive (b))	a  b 	
Dependence		
Terminology Mapping		
<u>S-Designer</u>		<u>OMT</u>
Entity		Class
Data Item		Attribute
Entity Relationship Design (ERD)		Object-Modeling Technique (OMT)
Relationship		Association
Inheritance		Inheritance
Domain (list of valids)		Domain Value

**Figure 2-1. ERD Mapping**

**Table 2-1. Attribute DataType Definitions**

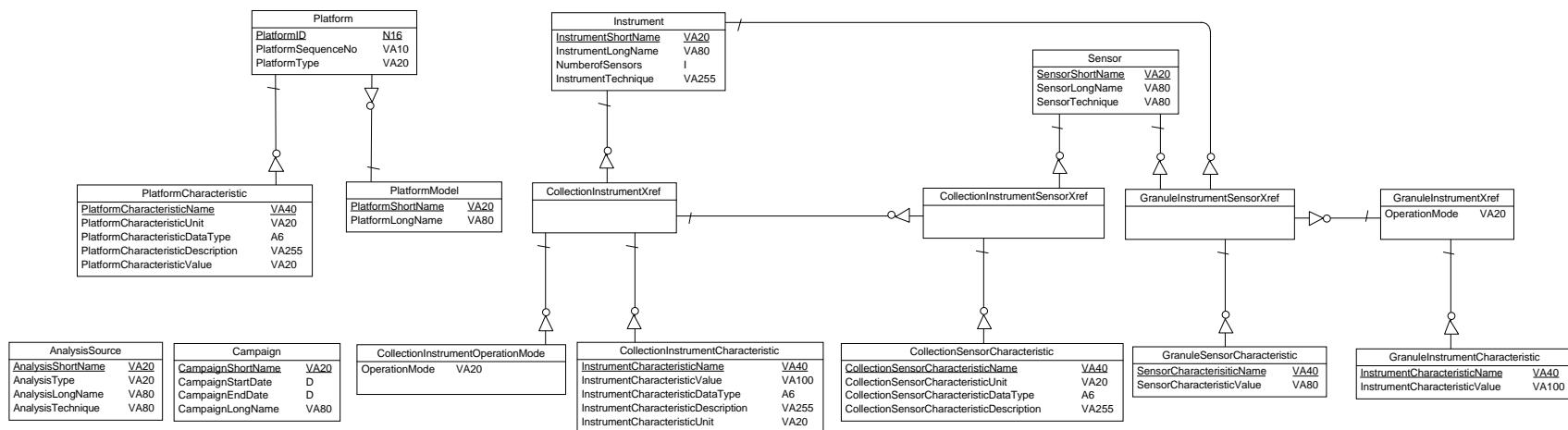
Conceptual Data Type	Code in DEF File	What It Stores	Translation Example for SQL Anywhere
Character	A	Character strings of fixed length	char
Variable Characters	VA	Character strings of variable length	varchar
Boolean	BL	Two opposing values (true/false; yes/no; 1/0)	numeric (1)
Text	TXT	Character strings of variable length	long varchar
Short Integer	SI	16-bit integer	smallint
Integer	I	32-bit integer	integer
Number	N	number with a fixed decimal point	numeric
Float	F	32-bit floating decimal number	float
Short Float	SF	Less than 32-bit floating decimal numbers	real
Long Float	LF	64-bit floating decimal numbers	double
Date	D	Day, month, and year	date
Time	T	Hour, minute, and second	time
Date & Time	DT	Date and time	timestamp

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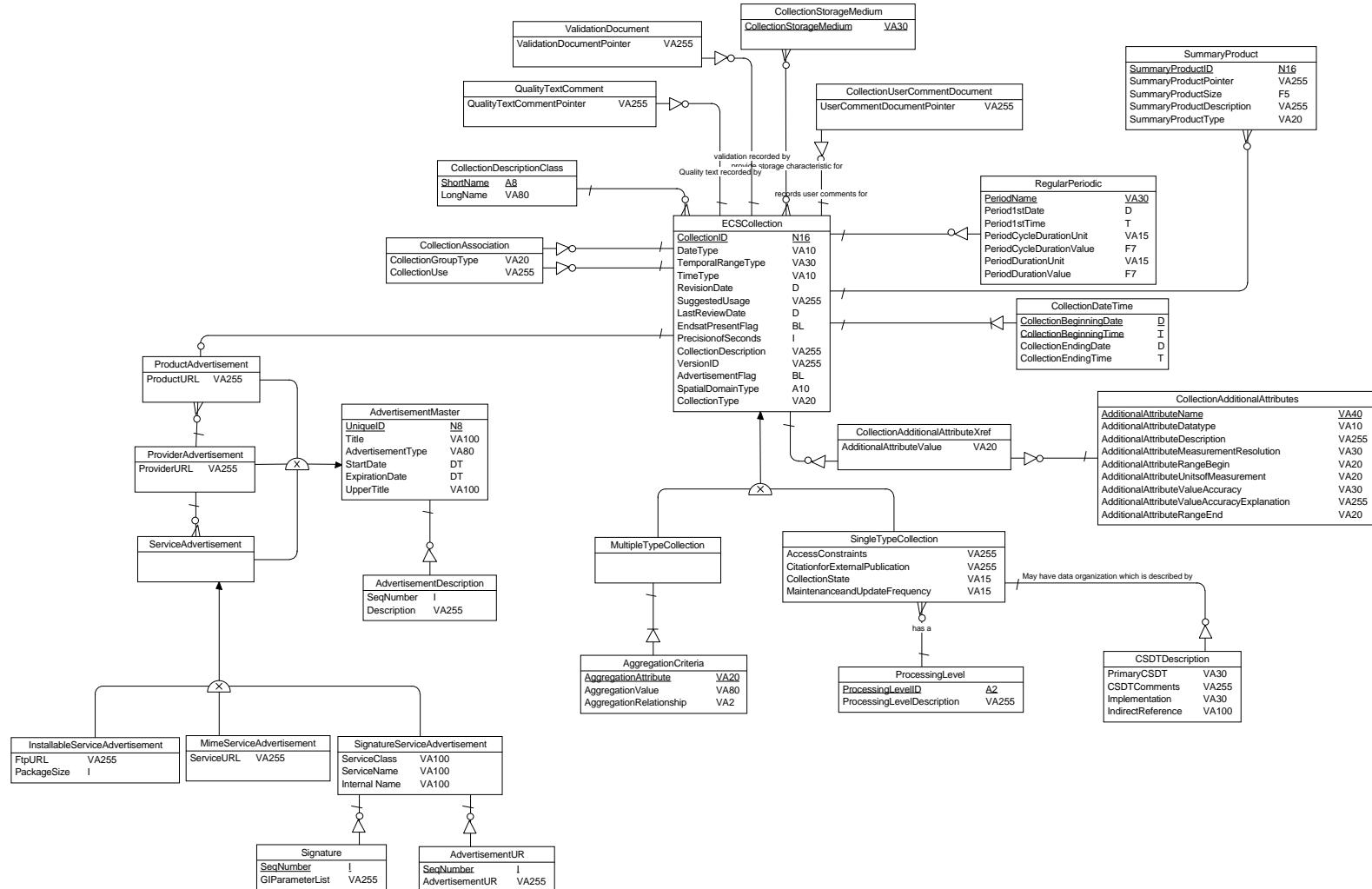
**Figure 2-2. Release B.1 Data Model (Global View)**

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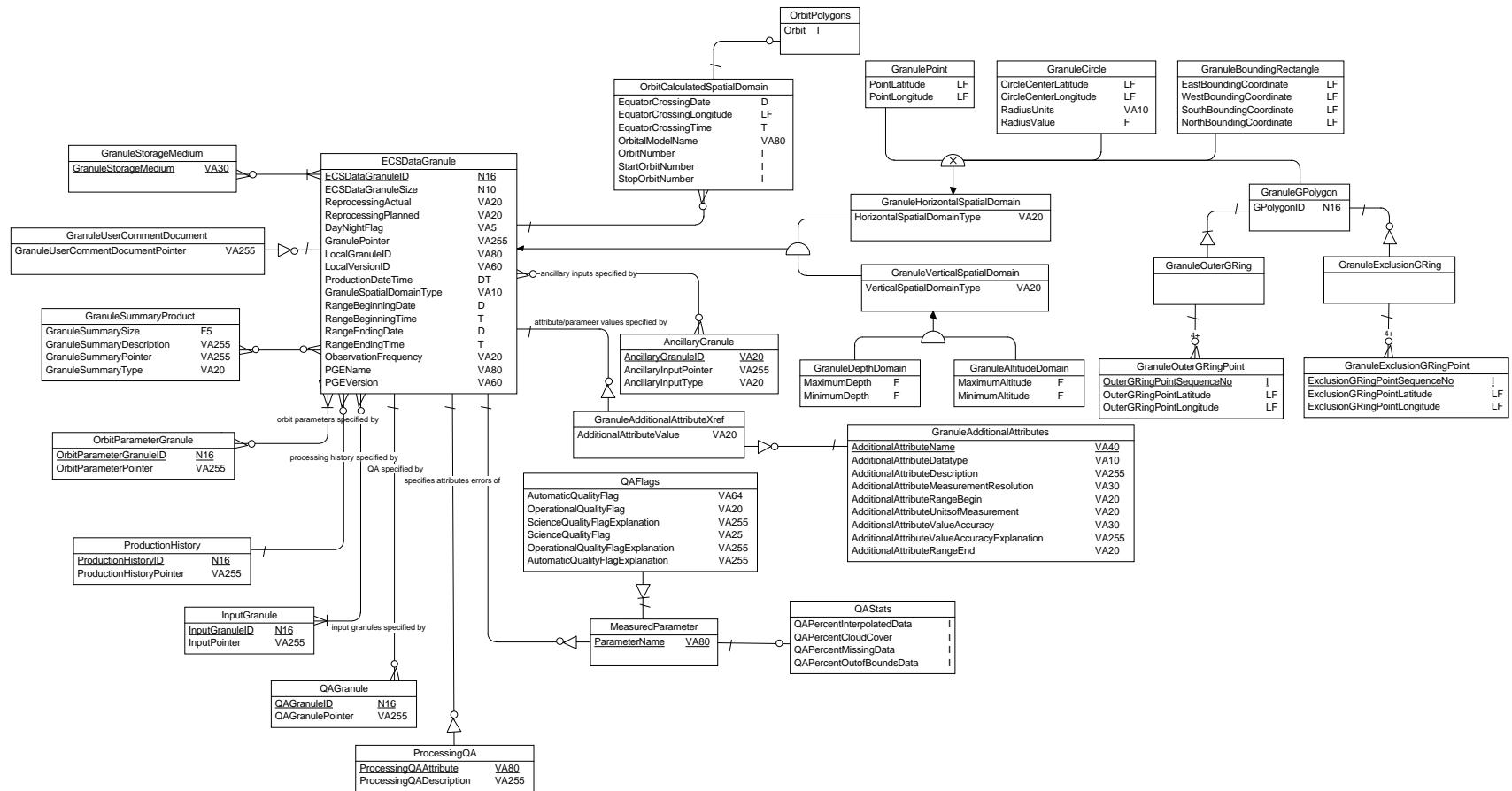
**Figure 2-3. Data Originator Module**

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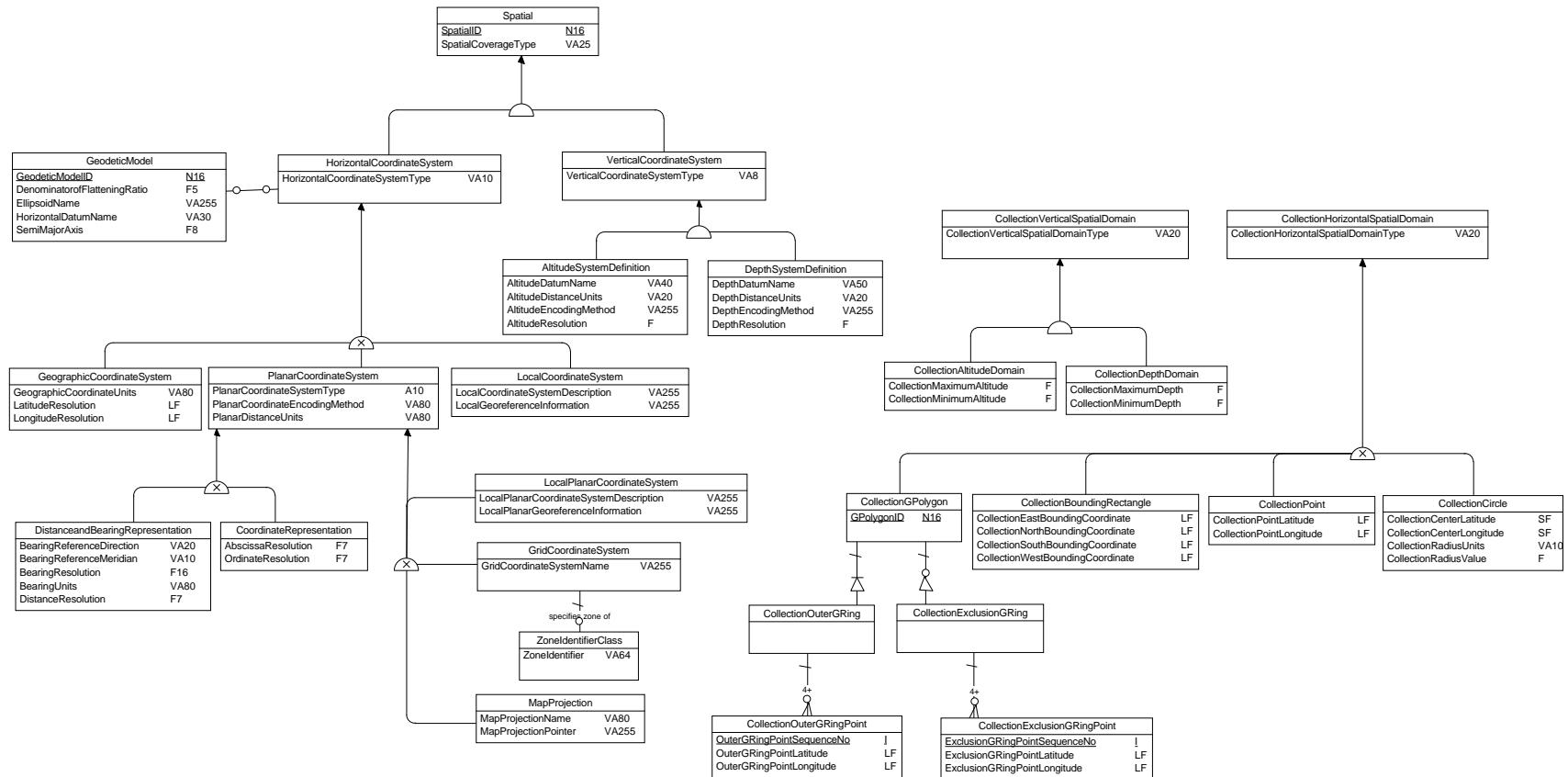
**Figure 2-4. ECSCollection Module**

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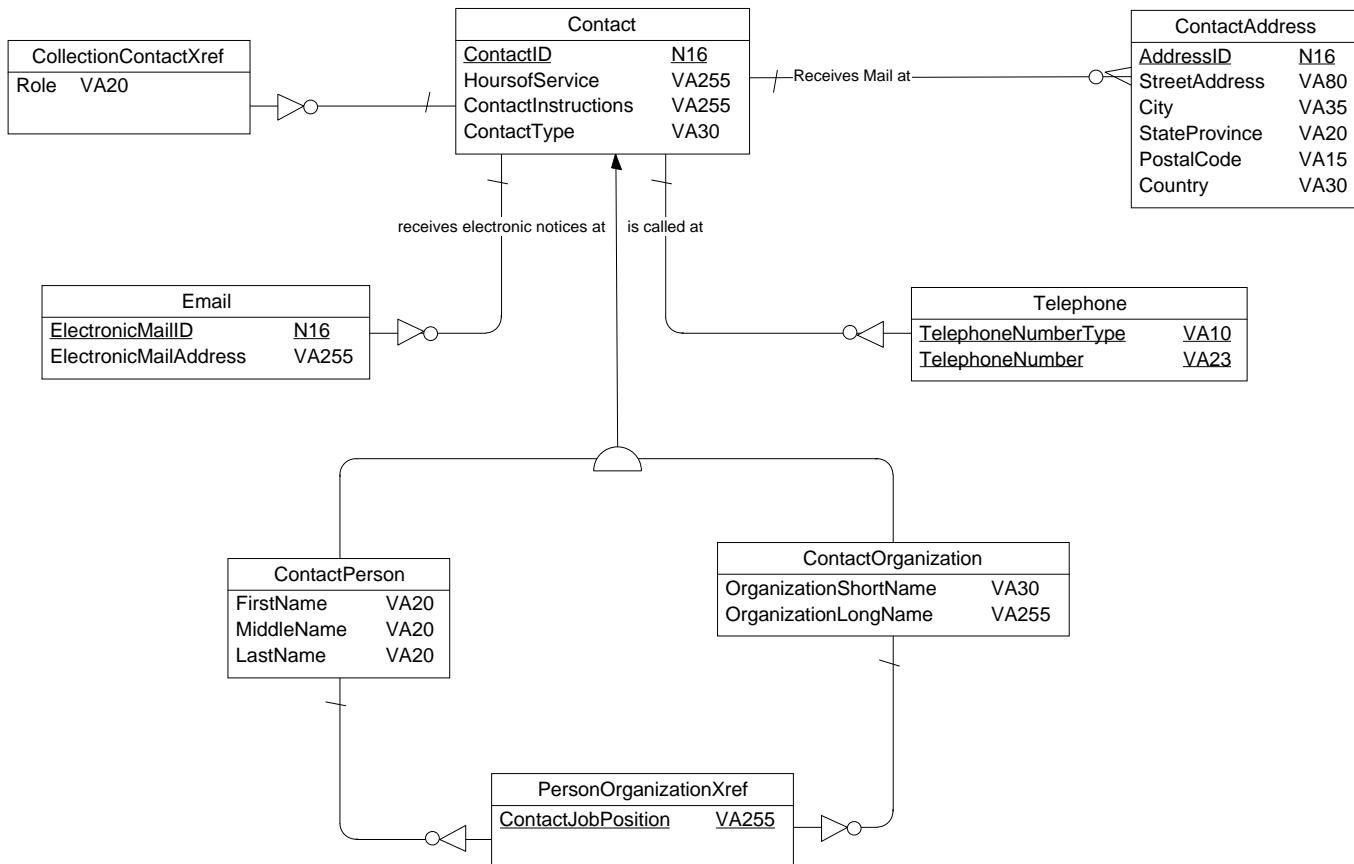
**Figure 2-5. ECSDDataGranule Module**

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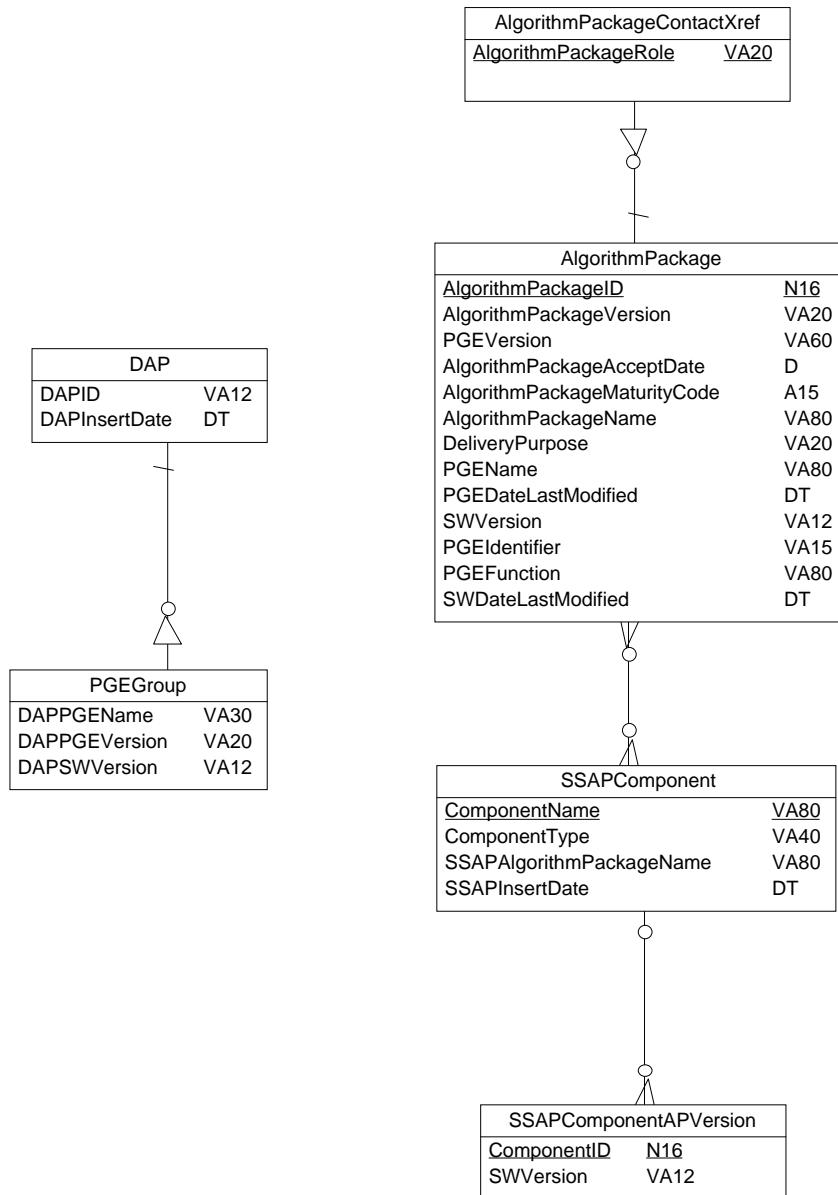


**Figure 2-6. LocalitySpatial Module**

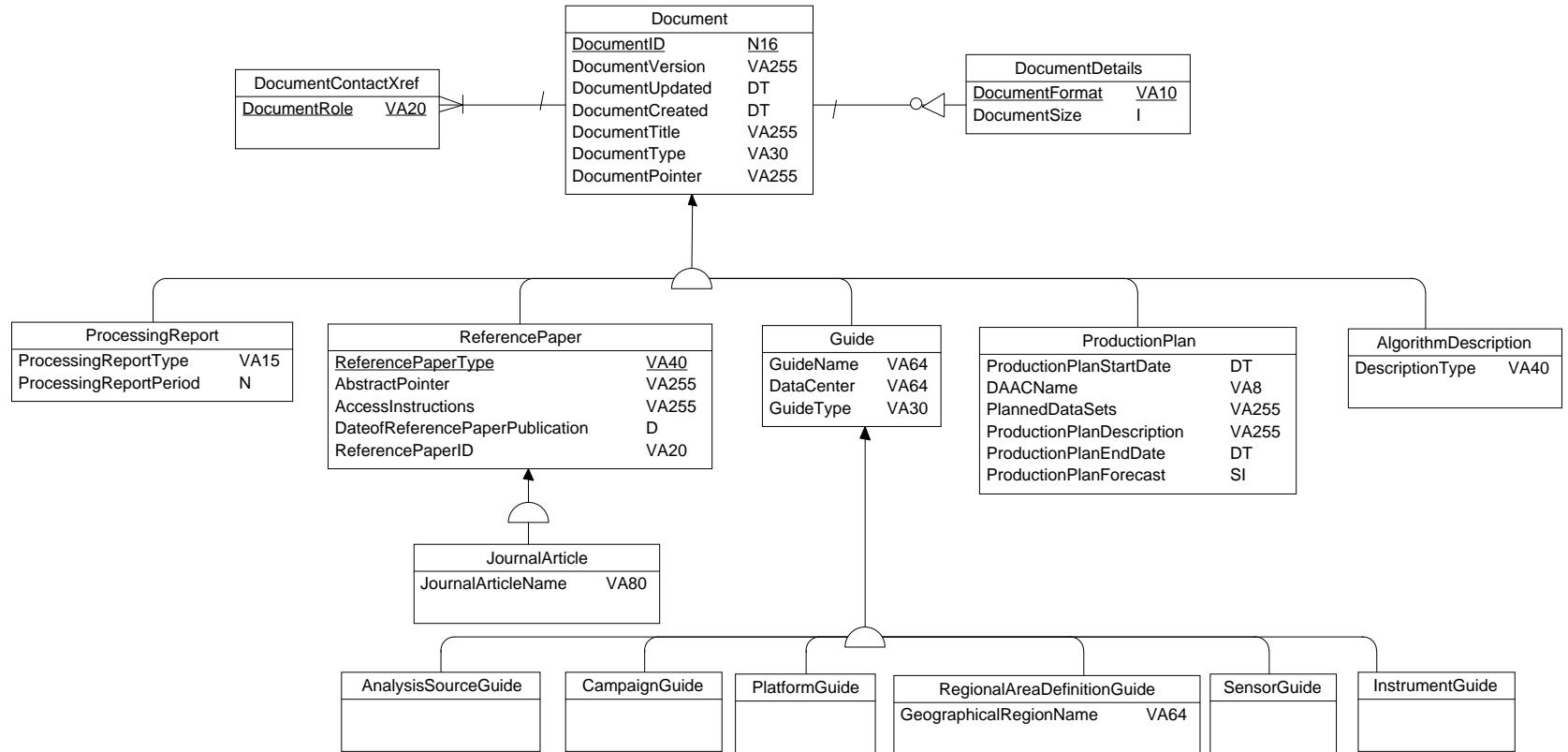
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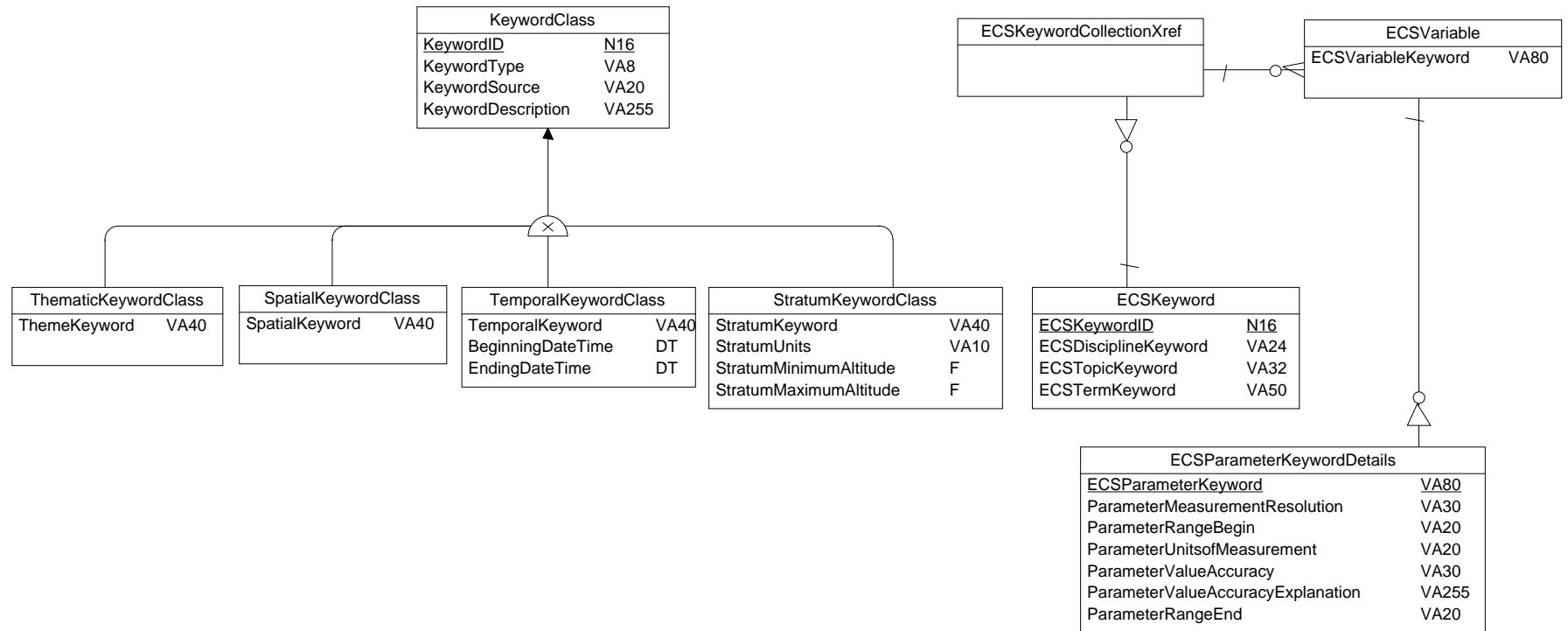
**Figure 2-7. Contact Module**



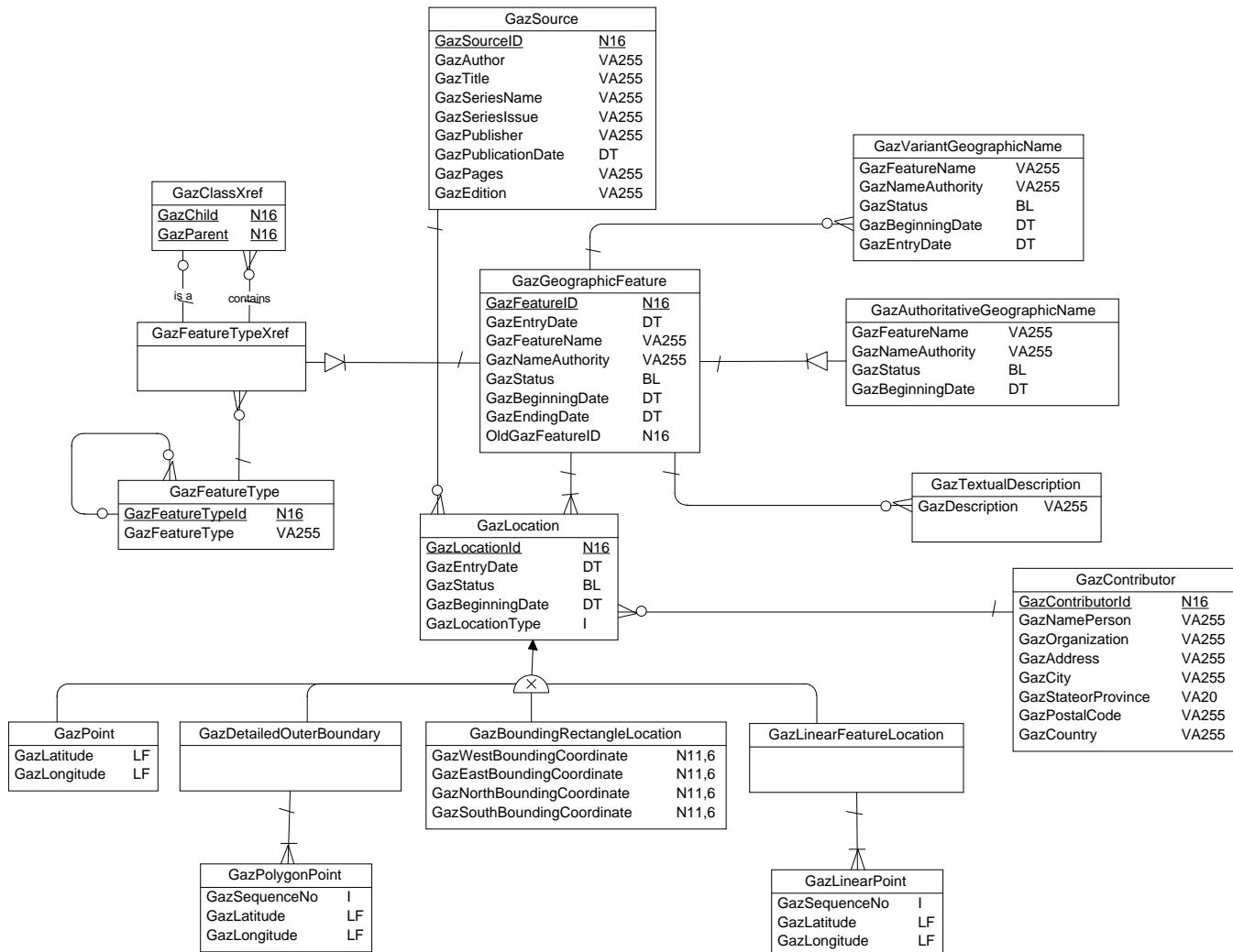
**Figure 2-8. AlgorithmPackage Module**



**Figure 2-9. Document Module**



**Figure 2-10. Keyword Module**



**Figure 2-11. Gazetteer Module**

## 2.1.2 Class Definitions

Table 2-2 provides a reference list of all classes in the Release B.1 Data Model. Following table 2-2 are the class descriptions and a list of attributes pertaining to each class. In the reference list of attributes, the attributes may be identified as a unique ‘identifier’ (I) and/or ‘mandatory’ (M) where applicable.

**Table 2-2. Class Reference Table (1 of 2)**

Class Name	Class Name	Class Name
1) AdvertisementDescription	35) CollectionSensorCharacteristic	69) GazPoint
2) AdvertisementMaster	36) CollectionStorageMedium	70) GazPolygonPoint
3) AdvertisementUR	37) CollectionUserCommentDocument	71) GazSource
4) AggregationCriteria	38) CollectionVerticalSpatialDomain	72) GazTextualDescription
5) AlgorithmDescription	39) Contact	73) GazVariantGeographicName
6) AlgorithmPackage	40) ContactAddress	74) GeodeticModel
7) AlgorithmPackageContactXref	41) ContactOrganization	75) GeographicCoordinateSystem
8) AltitudeSystemDefinition	42) ContactPerson	76) GranuleAdditionalAttributes
9) AnalysisSource	43) CoordinateRepresentation	77) GranuleAdditionalAttributeXref
10) AnalysisSourceGuide	44) CSDTDescription	78) GranuleAltitudeDomain
11) AncillaryGranule	45) DAP	79) GranuleBoundingRectangle
12) Campaign	46) DepthSystemDefinition	80) GranuleCircle
13) CampaignGuide	47) DistanceandBearingRepresentation	81) GranuleDepthDomain
14) CollectionAdditionalAttributes	48) Document	82) GranuleExclusionGRing
15) CollectionAdditionalAttributeXref	49) DocumentContactXref	83) GranuleExclusionGRingPoint
16) CollectionAltitudeDomain	50) DocumentDetails	84) GranuleGPolygon
17) CollectionAssociation	51) ECSCollection	85) GranuleHorizontalSpatialDomain
18) CollectionBoundingRectangle	52) ECSDataGranule	86) GranuleInstrumentCharacteristic
19) CollectionCircle	53) ECSKeyword	87) GranuleInstrumentSensorXref
20) CollectionContactXref	54) ECSKeywordCollectionXref	88) GranuleInstrumentXref
21) CollectionDateTime	55) ECSParameterKeywordDetails	89) GranuleOuterGRing
22) CollectionDepthDomain	56) ECSVariable	90) GranuleOuterGRingPoint
23) CollectionDescriptionClass	57) Email	91) GranulePoint
24) CollectionExclusionGRing	58) GazAuthoritativeGeographicName	92) GranuleSensorCharacteristic
25) CollectionExclusionGRingPoint	59) GazBoundingRectangleLocation	93) GranuleStorageMedium
26) CollectionGPolygon	60) GazClassXref	94) GranuleSummaryProduct
27) CollectionHorizontalSpatialDomain	61) GazContributor	95) GranuleUserCommentDocument
28) CollectionInstrumentCharacteristic	62) GazDetailedOuterBoundary	96) GranuleVerticalSpatialDomain
29) CollectionInstrumentOperationMode	63) GazFeatureType	97) GridCoordinateSystem
30) CollectionInstrumentSensorXref	64) GazFeatureTypeXref	98) Guide
31) CollectionInstrumentXref	65) GazGeographicFeature	99) HorizontalCoordinateSystem
32) CollectionOuterGRing	66) GazLinearFeatureLocation	100) InputGranule
33) CollectionOuterGRingPoint	67) GazLinearPoint	101) InstallableServiceAdvertisement
34) CollectionPoint	68) GazLocation	102) Instrument

**Table 2-2. Class Reference Table (2 of 2)**

Class Name	Class Name	Class Name
103) InstrumentGuide	120) PlatformGuide	137) SensorGuide
104) JournalArticle	121) PlatformModel	138) ServiceAdvertisement
105) KeywordClass	122) ProcessingLevel	139) Signature
106) LocalCoordinateSystem	123) ProcessingQA	140) SignatureServiceAdvertisement
107) LocalPlanarCoordinateSystem	124) ProcessingReport	141) SingleTypeCollection
108) MapProjection	125) ProductAdvertisement	142) Spatial
109) MeasuredParameter	126) ProductionHistory	143) SpatialKeywordClass
110) MimeServiceAdvertisement	127) ProductionPlan	144) SSAPComponent
111) MultipleTypeCollection	128) ProviderAdvertisement	145) SSAPComponentAPVersion
112) OrbitCalculatedSpatialDomain	129) QAFlags	146) StratumKeywordClass
113) OrbitParameterGranule	130) QAGranule	147) SummaryProduct
114) OrbitPolygons	131) QAStats	148) Telephone
115) PersonOrganizationXref	132) QualityTextComment	149) TemporalKeywordClass
116) PGEGroup	133) ReferencePaper	150) ThematicKeywordClass
117) PlanarCoordinateSystem	134) RegionalAreaDefinitionGuide	151) ValidationDocument
118) Platform	135) RegularPeriodic	152) VerticalCoordinateSystem
119) PlatformCharacteristic	136) Sensor	153) ZoneIdentifierClass

## AdvertisementDescription

This class provides a description of the Advertisement.

### Attribute(s)

Name	Type	I	M
SeqNumber	I	No	Yes
Description	VA255	No	Yes

## AdvertisementMaster

This class contains master for all kinds of Advertisements (product, provider and service).

### Attribute(s)

Name	Type	I	M
UniqueID	N8	Yes	Yes
Title	VA100	No	Yes
AdvertisementType	VA80	No	Yes
StartDate	DT	No	Yes

Name	Type	I	M
ExpirationDate	DT	No	Yes
UpperTitle	VA100	No	Yes

## AdvertisementUR

This class provides the UR for the advertisement.

### Attribute(s)

Name	Type	I	M
SeqNumber	I	Yes	Yes
AdvertisementUR	VA255	No	No

## AggregationCriteria

This class contains the criteria of how the MultipleTypeCollection is generated.

### Attribute(s)

Name	Type	I	M
AggregationAttribute	VA20	Yes	Yes
AggregationValue	VA80	No	Yes
AggregationRelationship	VA2	No	Yes

## AlgorithmDescription

A class providing parameter components for search of the documents and software associated with the SSAP.

### Attribute(s)

Name	Type	I	M
DescriptionType	VA40	No	Yes

## AlgorithmPackage

This class provides the common characteristics of the algorithms used in product generation. These characteristics include the algorithm package name, date, version, maturity code and generating system characteristics for the package.

**Attribute(s)**

Name	Type	I	M
AlgorithmPackageID	N16	Yes	Yes
AlgorithmPackageVersion	VA20	No	Yes
PGEVersion	VA60	No	Yes
AlgorithmPackageAcceptDate	D	No	Yes
AlgorithmPackageMaturityCode	A15	No	Yes
AlgorithmPackageName	VA80	No	Yes
DeliveryPurpose	VA20	No	Yes
PGEName	VA80	No	Yes
PGEDateLastModified	DT	No	Yes
SWVersion	VA12	No	No
PGEIdentifier	VA15	No	No
PGEFunction	VA80	No	No
SWDateLastModified	DT	No	No

**AlgorithmPackageContactXref**

This class is used to cross reference the classification of individuals who are associated with a given algorithm package.

**Attribute(s)**

Name	Type	I	M
AlgorithmPackageRole	VA20	Yes	Yes

**AltitudeSystemDefinition**

The reference frame or system from which altitudes (elevations) are measured. The term 'altitude' is used instead of the common term 'elevation' to conform to the terminology in Federal Information Processing Standards 70-1 and 173. The class contains the datum name, distance units and encoding method which provide the definition for the system.

**Attribute(s)**

Name	Type	I	M
AltitudeDatumName	VA40	No	Yes
AltitudeDistanceUnits	VA20	No	Yes
AltitudeEncodingMethod	VA255	No	No
AltitudeResolution	F	No	No

**AnalysisSource**

This class is used to describe the data acquisition or data processing processes which characterize a collection. Collections can have both data acquisition and data processing processes associated with them. An example would be a weather analysis collection which included data collected using the NWS ASOS network (PlatformType=Network, PlatformShortName=ASOS) which was processed using an NMC analysis model (e.g. AnalysisType=Model, AnalysisShortName=RAFS, AnalysisDescription=Regional Area Forecast System, AnalysisTechnique= Regional Optimal Interpolation.).

**Attribute(s)**

Name	Type	I	M
AnalysisShortName	VA20	Yes	Yes
AnalysisType	VA20	No	No
AnalysisLongName	VA80	No	No
AnalysisTechnique	VA80	No	No

**AnalysisSourceGuide**

This class contains a logical pointer to Analysis Source guides.

**AncillaryGranule**

This class contains the logical pointer to the ancillary input used in creation of the data granule. Many such objects (i.e., files) may occur per data granule.

**Attribute(s)**

Name	Type	I	M
AncillaryGranuleID	VA20	Yes	Yes
AncillaryInputPointer	VA255	No	Yes
AncillaryInputType	VA20	No	No

## Campaign

This class contains attributes describing the scientific endeavor(s) to which the collection is associated. Scientific endeavors include campaigns, projects, interdisciplinary science investigations, missions, field experiments, etc.

### Attribute(s)

Name	Type	I	M
CampaignShortName	VA20	Yes	Yes
CampaignStartDate	D	No	Yes
CampaignEndDate	D	No	Yes
CampaignLongName	VA80	No	No

## CampaignGuide

This class contains a logical pointer to campaign guides.

## CollectionAdditionalAttributes

This class identifies the product specific attributes (i.e. attributes used to describe the unique characteristics of the collection or granule which extend beyond those defined in this model). The 'values' of attributes defined using this mechanism are contained in the class AdditionalAttributeValue.

### Attribute(s)

Name	Type	I	M
AdditionalAttributeName	VA40	Yes	Yes
AdditionalAttributeDatatype	VA10	No	Yes
AdditionalAttributeDescription	VA255	No	Yes
AdditionalAttributeMeasurementResolution	VA30	No	No
AdditionalAttributeRangeBegin	VA20	No	No
AdditionalAttributeUnitsofMeasurement	VA20	No	No
AdditionalAttributeValueAccuracy	VA30	No	No
AdditionalAttributeValueAccuracyExplanation	VA255	No	No
AdditionalAttributeRangeEnd	VA20	No	No

## **CollectionAdditionalAttributeXref**

This class is used to cross reference Collections, CollectionAdditionalAttributes, and their values.

### **Attribute(s)**

Name	Type	I	M
AdditionalAttributeValue	VA20	No	No

## **CollectionAltitudeDomain**

This class describes the vertical extent of a collection above the reference datum (e.g. sea level).

### **Attribute(s)**

Name	Type	I	M
CollectionMaximumAltitude	F	No	Yes
CollectionMinimumAltitude	F	No	Yes

## **CollectionAssociation**

This class is used to describe collections associated with the instance of a collection; i.e., the name and other details of input or associated collections (in science data terms) with the instance can also describe collections dependent on the collection in some way.

### **Attribute(s)**

Name	Type	I	M
CollectionGroupType	VA20	No	Yes
CollectionUse	VA255	No	Yes

## **CollectionBoundingRectangle**

This class contains area coverage for ECS collections. This area coverage is expressed by latitude and longitude values in the order western, eastern, northern, and southern - most. For data sets that include a complete band of latitude around the Earth, the west coord = -180.0 and the east= 180.0. Latitude values are -90.0 to +90.0.

### **Attribute(s)**

Name	Type	I	M
CollectionEastBoundingCoordinate	LF	No	Yes
CollectionNorthBoundingCoordinate	LF	No	Yes

Name	Type	I	M
CollectionSouthBoundingCoordinate	LF	No	Yes
CollectionWestBoundingCoordinate	LF	No	Yes

## CollectionCircle

This class identifies the characteristics required to specify the area coverage for a collection as a circle consisting of latitude center, longitude center, radius units, and radius value.

### Attribute(s)

Name	Type	I	M
CollectionCenterLatitude	SF	No	Yes
CollectionCenterLongitude	SF	No	Yes
CollectionRadiusUnits	VA10	No	Yes
CollectionRadiusValue	F	No	Yes

## CollectionContactXref

This class is used to cross reference specific Collections and Contacts and includes an attribute to distinguish the role of the contact (e.g. Data Producer).

### Attribute(s)

Name	Type	I	M
Role	VA20	No	Yes

## CollectionDateTime

This class specifies the start and end date/time of a collection.

### Attribute(s)

Name	Type	I	M
CollectionBeginningDate	D	Yes	Yes
CollectionBeginningTime	T	Yes	Yes
CollectionEndingDate	D	No	Yes
CollectionEndingTime	T	No	Yes

## **CollectionDepthDomain**

This class describes the vertical extent of a collection below the reference datum.

### **Attribute(s)**

Name	Type	I	M
CollectionMaximumDepth	F	No	Yes
CollectionMinimumDepth	F	No	Yes

## **CollectionDescriptionClass**

This class is used to define generic characteristics of collections.

### **Attribute(s)**

Name	Type	I	M
ShortName	A8	Yes	Yes
LongName	VA80	No	Yes

## **CollectionExclusionGRing**

This class represents the closed nonintersecting boundary of a void polygon (or "hole") in an exclusion polygon for a collection. Inner rings denote areas of missing coverage within the outer ring.

## **CollectionExclusionGRingPoint**

This class contains the collection level G-Ring attributes which denote the latitude and longitude of the start point of each of a set of geolocation segments, which when combined form an exclusion polygon. The sequence numbers determine how to connect the starting points in a clockwise direction to form the polygon. Each set of values must contain exactly two sets of point values (one for latitude and one for longitude) and a sequence number.

### **Attribute(s)**

Name	Type	I	M
ExclusionGRingPointSequenceNo	I	Yes	Yes
ExclusionGRingPointLatitude	LF	No	Yes
ExclusionGRingPointLongitude	LF	No	Yes

## **CollectionGPolygon**

This class represents the collection level G-Ring Polgon.

### **Attribute(s)**

Name	Type	I	M
GPolygonID	N16	Yes	Yes

## **CollectionHorizontalSpatialDomain**

This class is used to define the type of horizontal domain that best describes a collection.

### **Attribute(s)**

Name	Type	I	M
CollectionHorizontalSpatialDomainType	VA20	No	Yes

## **CollectionInstrumentCharacteristic**

This class is used to define the characteristics of instrument specific attributes.

### **Attribute(s)**

Name	Type	I	M
InstrumentCharacteristicName	VA40	Yes	Yes
InstrumentCharacteristicValue	VA100	No	No
InstrumentCharacteristicDataType	A6	No	No
InstrumentCharacteristicDescription	VA255	No	No
InstrumentCharacteristicUnit	VA20	No	No

## **CollectionInstrumentOperationMode**

This class identifies the collection-level instrument's operational modes associated with the channel, wavelengths, and FOV. (e.g. launch, survival, initialization, safe, diagnostic, roll, tilt, standby, routine, test, solar calibration)

### **Attribute(s)**

Name	Type	I	M
OperationMode	VA20	No	No

## **CollectionInstrumentSensorXref**

This class is used as a cross reference between Instrument and Sensor.

## **CollectionInstrumentXref**

This class is used as a cross reference between Instrument, CollectionInstrumentOperationMode, and CollectionInstrumentCharacteristic.

## **CollectionOuterGRing**

This class represents the closed nonintersecting boundary of a void polygon (or "hole") in an interior polygon for a collection. Outer rings describe the full coverage extent.

## **CollectionOuterGRingPoint**

This class contains the collection level outer G-Ring attributes which denote the latitude and longitude of the start point of each of a set of geolocation segments, which when combined form an outer polygon. The sequence numbers determine how to connect the starting points in a clockwise direction to form the polygon. Each set of values must contain exactly two sets of point values (one for latitude and one for longitude) and a sequence number.

### **Attribute(s)**

Name	Type	I	M
OuterGRingPointSequenceNo	I	Yes	Yes
OuterGRingPointLatitude	LF	No	No
OuterGRingPointLongitude	LF	No	No

## **CollectionPoint**

This class identifies the characteristics of the point area coverage to include the latitude and longitude for a collection.

### **Attribute(s)**

Name	Type	I	M
CollectionPointLatitude	LF	No	Yes
CollectionPointLongitude	LF	No	Yes

## **CollectionSensorCharacteristic**

This class is used to define the characteristics of sensor specific attributes.

### **Attribute(s)**

Name	Type	I	M
CollectionSensorCharacteristicName	VA40	Yes	Yes
CollectionSensorCharacteristicUnit	VA20	No	No
CollectionSensorCharacteristicDataType	A6	No	No
CollectionSensorCharacteristicDescription	VA255	No	No

## **CollectionStorageMedium**

This class contains the medium on which the collection level data are stored for distribution.

### **Attribute(s)**

Name	Type	I	M
CollectionStorageMedium	VA30	Yes	Yes

## **CollectionUserCommentDocument**

A class containing a logical pointer to documents used to record user comments on the collection.

### **Attribute(s)**

Name	Type	I	M
UserCommentDocumentPointer	VA255	No	Yes

## **CollectionVerticalSpatialDomain**

This class contains the vertical extent of the collection expressed in AltitudeDistanceUnits.

### **Attribute(s)**

Name	Type	I	M
CollectionVerticalSpatialDomainType	VA20	No	Yes

## **Contact**

This class describes the basic characteristics for a person or an organization type of contact. These contacts may provide information about a Collection, Algorithm Package, or Document. The role attribute specifies the type of

contact and serves to differentiate the use of the module for the various classes associated with it from other modules. System and user profile contact information is held elsewhere.

#### **Attribute(s)**

Name	Type	I	M
ContactID	N16	Yes	Yes
HoursofService	VA255	No	No
ContactInstructions	VA255	No	No
ContactType	VA30	No	No

### **ContactAddress**

This class contains the address details for each contact.

#### **Attribute(s)**

Name	Type	I	M
AddressID	N16	Yes	Yes
StreetAddress	VA80	No	Yes
City	VA35	No	Yes
StateProvince	VA20	No	Yes
PostalCode	VA15	No	Yes
Country	VA30	No	Yes

### **ContactOrganization**

This class contains the name of the contact organization. In some instances, ContactOrganization is the primary point of contact.

#### **Attribute(s)**

Name	Type	I	M
OrganizationShortName	VA30	No	Yes
OrganizationLongName	VA255	No	Yes

### **ContactPerson**

This class contains the contact person's name and position. This class is used optionally with ContactOrganization. In some instances, ContactPerson is the primary point of contact.

**Attribute(s)**

Name	Type	I	M
FirstName	VA20	No	Yes
MiddleName	VA20	No	No
LastName	VA20	No	Yes

**CoordinateRepresentation**

This class contains the abscissa and ordinate resolutions for the planar coordinates.

**Attribute(s)**

Name	Type	I	M
AbscissaResolution	F7	No	Yes
OrdinateResolution	F7	No	Yes

**CSDTDescription**

The class exists to provide a description of the data organization of the product (i.e. a generalized granule description in terms of internal structure). There are many possible structures. All should be describable by one of the PrimaryCSDTs (fixed domain), but the specific Implementation has an unbounded domain indicating the range at the lower structured level. While many CSDTs may exist in a granule, only the primary or dominant CSDT is described (e.g. PrimaryCSDT = swath, Implementation = HDF-EOS). The indirect reference is used for collection specific data organization labels. A comment field is provided for further explanation.

**Attribute(s)**

Name	Type	I	M
PrimaryCSDT	VA30	No	Yes
CSDTComments	VA255	No	No
Implementation	VA30	No	No
IndirectReference	VA100	No	No

## **DAP**

This class represents the DeliveredAlgorithmPackage.

### **Attribute(s)**

Name	Type	I	M
DAPID	VA12	No	No
DAPInsertDate	DT	No	No

## **DepthSystemDefinition**

This class contains the characteristics of the reference frame or system from which depths are measured.

### **Attribute(s)**

Name	Type	I	M
DepthDatumName	VA50	No	Yes
DepthDistanceUnits	VA20	No	Yes
DepthEncodingMethod	VA255	No	No
DepthResolution	F	No	No

## **DistanceandBearingRepresentation**

This class contains the resolutions units, direction, and meridian for the planar coordinate system. A method of encoding the position of a point by measuring its distance and direction (azimuth angle) from another point.

### **Attribute(s)**

Name	Type	I	M
BearingReferenceDirection	VA20	No	Yes
BearingReferenceMeridian	VA10	No	Yes
BearingResolution	F16	No	No
BearingUnits	VA80	No	Yes
DistanceResolution	F7	No	No

## **Document**

The document class contains common attributes used to specify the title, version, created and update dates for all document types.

**Attribute(s)**

Name	Type	I	M
DocumentID	N16	Yes	Yes
DocumentVersion	VA255	No	Yes
DocumentUpdated	DT	No	Yes
DocumentCreated	DT	No	Yes
DocumentTitle	VA255	No	Yes
DocumentType	VA30	No	Yes
DocumentPointer	VA255	No	Yes

**DocumentContactXref**

This class is used to cross reference Documents with Contacts and includes an attribute to define the contact role with respect to the document (e.g. Author, Publisher).

**Attribute(s)**

Name	Type	I	M
DocumentRole	VA20	Yes	Yes

**DocumentDetails**

This class contains the size(s) and format(s) of the various representations of a document.

**Attribute(s)**

Name	Type	I	M
DocumentFormat	VA10	Yes	Yes
DocumentSize	I	No	No

**ECSCollection**

This class provides further description of the collection. It is associated with many other collection level descriptive classes and modules.

**Attribute(s)**

Name	Type	I	M
CollectionID	N16	Yes	Yes
DateTime	VA10	No	Yes
TemporalRangeType	VA30	No	Yes
TimeType	VA10	No	Yes
RevisionDate	D	No	No
SuggestedUsage	VA255	No	No
LastReviewDate	D	No	No
EndsatPresentFlag	BL	No	Yes
PrecisionofSeconds	I	No	Yes
CollectionDescription	VA255	No	Yes
VersionID	VA255	No	Yes
AdvertisementFlag	BL	No	Yes
SpatialDomainType	A10	No	No
CollectionType	VA20	No	No

**ECSDataGranule**

This class includes the descriptive metadata associated with an ECS science granule including granule size, reprocessing status, day/night flag, granule pointer, local granule and version IDs, and production time.

**Attribute(s)**

Name	Type	I	M
ECSDataGranuleID	N16	Yes	Yes
ECSDataGranuleSize	N10	No	Yes
ReprocessingActual	VA20	No	Yes
ReprocessingPlanned	VA20	No	Yes
DayNightFlag	VA5	No	No
GranulePointer	VA255	No	Yes
LocalGranuleID	VA80	No	No
LocalVersionID	VA60	No	No

Name	Type	I	M
ProductionDateTime	DT	No	No
GranuleSpatialDomainType	VA10	No	Yes
RangeBeginningDate	D	No	Yes
RangeBeginningTime	T	No	Yes
RangeEndingDate	D	No	Yes
RangeEndingTime	T	No	Yes
ObservationFrequency	VA20	No	No
PGEName	VA80	No	No
PGEVersion	VA60	No	No

## **ECSKeyword**

This class contains the Discipline/Topic/Term keyword hierarchy.

### **Attribute(s)**

Name	Type	I	M
ECSKeywordID	N16	Yes	Yes
ECSDisciplineKeyword	VA24	No	Yes
ECSTopicKeyword	VA32	No	Yes
ECSTermKeyword	VA50	No	Yes

## **ECSKeywordCollectionXref**

This class is used to cross reference ECSKeywords with specific collections.

### **ECSPParameterKeywordDetails**

This class is used to provide further information about the physical or geophysical parameters. It contains the units of measurement, range, accuracy, explanation and resolution.

### **Attribute(s)**

Name	Type	I	M
ECSPParameterKeyword	VA80	Yes	Yes
ParameterMeasurementResolution	VA30	No	No
ParameterRangeBegin	VA20	No	No

Name	Type	I	M
ParameterUnitsofMeasurement	VA20	No	Yes
ParameterValueAccuracy	VA30	No	No
ParameterValueAccuracyExplanation	VA255	No	No
ParameterRangeEnd	VA20	No	No

## ECSVariable

This class contains the variable keyword(s) associated with the collection. (e.g. upper troposphere, temperature, precipitable water, soil depth, albedo)

### Attribute(s)

Name	Type	I	M
ECSVariableKeyword	VA80	No	Yes

## Email

This class contains the electronic mail address of the contact or document author.

### Attribute(s)

Name	Type	I	M
ElectronicMailID	N16	Yes	Yes
ElectronicEmailAddress	VA255	No	Yes

## GazAuthoritativeGeographicName

This is the authoritative name of a feature for the gazetteer service. Each feature has exactly one authoritative name and it is input by the original contributor of the feature.

### Attribute(s)

Name	Type	I	M
GazFeatureName	VA255	No	Yes
GazNameAuthority	VA255	No	No
GazStatus	BL	No	Yes
GazBeginningDate	DT	No	No

## **GazBoundingRectangleLocation**

This class represents a bounding box shape, defined by four coordinates.

### **Attribute(s)**

Name	Type	I	M
GazWestBoundingCoordinate	N11,6	No	Yes
GazEastBoundingCoordinate	N11,6	No	Yes
GazNorthBoundingCoordinate	N11,6	No	Yes
GazSouthBoundingCoordinate	N11,6	No	Yes

## **GazClassXref**

This class is used to form an arbitrary hierarchy among feature types, e.g. airport is a transportation. A special program is needed by the user interface in order to find the hierarchy and present it.

### **Attribute(s)**

Name	Type	I	M
GazChild	N16	Yes	Yes
GazParent	N16	Yes	Yes

## **GazContributor**

This class contains the person or organization contributing information to the Gazetteer.

### **Attribute(s)**

Name	Type	I	M
GazContributorId	N16	Yes	Yes
GazNamePerson	VA255	No	No
GazOrganization	VA255	No	Yes
GazAddress	VA255	No	Yes
GazCity	VA255	No	Yes
GazStateorProvince	VA20	No	Yes
GazPostalCode	VA255	No	Yes
GazCountry	VA255	No	Yes

## **GazDetailedOuterBoundary**

This class contains the closed polygon representing the DetailedOuterBoundary.

## **GazFeatureType**

This class contains the type of Gazetteer feature.

### **Attribute(s)**

Name	Type	I	M
GazFeatureTypeId	N16	Yes	Yes
GazFeatureType	VA255	No	Yes

## **GazFeatureTypeXref**

This class is used to cross reference feature types and features.

## **GazGeographicFeature**

This class represents the geographic feature of the Gazetteer.

### **Attribute(s)**

Name	Type	I	M
GazFeatureID	N16	Yes	Yes
GazEntryDate	DT	No	Yes
GazFeatureName	VA255	No	Yes
GazNameAuthority	VA255	No	No
GazStatus	BL	No	No
GazBeginningDate	DT	No	No
GazEndingDate	DT	No	No
OldGazFeatureID	N16	No	No

## **GazLinearFeatureLocation**

This class represents a non-closed line such as a river.

## **GazLinearPoint**

This class represents the point used in constructing a line.

**Attribute(s)**

Name	Type	I	M
GazSequenceNo	I	No	Yes
GazLatitude	LF	No	No
GazLongitude	LF	No	No

**GazLocation**

This class contains the location identifier, status and type of the Gazetteer, as well as beginning and entry dates. A location is one of four shapes; point, line, bounding box and polygon. Each shape could have its own time range so that some phenomenon could be seen as a feature such as a hurricane.

**Attribute(s)**

Name	Type	I	M
GazLocationId	N16	Yes	Yes
GazEntryDate	DT	No	No
GazStatus	BL	No	Yes
GazBeginningDate	DT	No	No
GazLocationType	I	No	Yes

**GazPoint**

This class contains the coordinates of points (lat/long) used by the Gazetteer function.

**Attribute(s)**

Name	Type	I	M
GazLatitude	LF	No	Yes
GazLongitude	LF	No	No

## **GazPolygonPoint**

This class contains a closed polygon formed by connecting multiple points. Sequence No is used to identify points.

### **Attribute(s)**

Name	Type	I	M
GazSequenceNo	I	No	Yes
GazLatitude	LF	No	No
GazLongitude	LF	No	No

## **GazSource**

This class contains the source information about the Gazetteer.

### **Attribute(s)**

Name	Type	I	M
GazSourceID	N16	Yes	Yes
GazAuthor	VA255	No	No
GazTitle	VA255	No	Yes
GazSeriesName	VA255	No	No
GazSeriesIssue	VA255	No	No
GazPublisher	VA255	No	Yes
GazPublicationDate	DT	No	Yes
GazPages	VA255	No	No
GazEdition	VA255	No	No

## **GazTextualDescription**

This class contains the textual description of the feature.

### **Attribute(s)**

Name	Type	I	M
GazDescription	VA255	No	No

## **GazVariantGeographicName**

This class contains the optional name for a feature in addition to the authoritative name.

### **Attribute(s)**

Name	Type	I	M
GazFeatureName	VA255	No	Yes
GazNameAuthority	VA255	No	No
GazStatus	BL	No	Yes
GazBeginningDate	DT	No	No
GazEntryDate	DT	No	No

## **GeodeticModel**

This class contains the parameters describing the shape of the Earth.

### **Attribute(s)**

Name	Type	I	M
GeodeticModelID	N16	Yes	Yes
DenominatorofFlatteningRatio	F5	No	No
EllipsoidName	VA255	No	No
HorizontalDatumName	VA30	No	No
SemiMajorAxis	F8	No	No

## **GeographicCoordinateSystem**

This class contains the latitude and longitude resolution and coordinate units which define the position of a point on the Earth's surface with respect to a reference spheroid.

### **Attribute(s)**

Name	Type	I	M
GeographicCoordinateUnits	VA80	No	Yes
LatitudeResolution	LF	No	Yes
LongitudeResolution	LF	No	Yes

## **GranuleAdditionalAttributes**

This class identifies the product specific attributes (i.e. attributes used to describe the unique characteristics of the collection which extend beyond those defined in this model). The 'values' of attributes defined using this mechanism are contained in GranuleAdditionalAttributeXref.

### **Attribute(s)**

Name	Type	I	M
AdditionalAttributeName	VA40	Yes	Yes
AdditionalAttributeDatatype	VA10	No	Yes
AdditionalAttributeDescription	VA255	No	Yes
AdditionalAttributeMeasurementResolution	VA30	No	No
AdditionalAttributeRangeBegin	VA20	No	No
AdditionalAttributeUnitsofMeasurement	VA20	No	No
AdditionalAttributeValueAccuracy	VA30	No	No
AdditionalAttributeValueAccuracyExplanation	VA255	No	No
AdditionalAttributeRangeEnd	VA20	No	No

## **GranuleAdditionalAttributeXref**

This class captures the actual values associated with the GranuleAdditionalAttributes class and ECSDataGranule class.

### **Attribute(s)**

Name	Type	I	M
AdditionalAttributeValue	VA20	No	Yes

## **GranuleAltitudeDomain**

This class describes the vertical extent of a granule above the reference datum (e.g. sea level).

### **Attribute(s)**

Name	Type	I	M
MaximumAltitude	F	No	Yes
MinimumAltitude	F	No	Yes

## **GranuleBoundingRectangle**

This class contains area coverage for ECS granules. This area coverage is expressed by latitude and longitude values in the order western, eastern, northern, and southern - most. For data sets that include a complete band of latitude around the Earth, the west coord = -180.0 and the east= 180.0. Latitude values are -90.0 to +90.0.

### **Attribute(s)**

Name	Type	I	M
EastBoundingCoordinate	LF	No	Yes
WestBoundingCoordinate	LF	No	Yes
SouthBoundingCoordinate	LF	No	Yes
NorthBoundingCoordinate	LF	No	Yes

## **GranuleCircle**

This class identifies the characteristics required to specify the area coverage for a granule as a circle consisting of latitude center, longitude center, radius units, and radius value.

### **Attribute(s)**

Name	Type	I	M
CircleCenterLatitude	LF	No	Yes
CircleCenterLongitude	LF	No	Yes
RadiusUnits	VA10	No	Yes
RadiusValue	F	No	Yes

## **GranuleDepthDomain**

This class describes the vertical extent of a granule below the reference datum.

### **Attribute(s)**

Name	Type	I	M
MaximumDepth	F	No	No
MinimumDepth	F	No	No

## **GranuleExclusionGRing**

This class represents the closed nonintersecting boundary of a void polygon (or "hole") in an exclusion polygon for a granule. Inner rings denote areas of missing coverage within the outer ring.

## **GranuleExclusionGRingPoint**

This class contains the granule level G-Ring attributes which denote the latitude and longitude of the start point of each of a set of geolocation segments, which when combined form a polygon. The sequence numbers determine how to connect the starting points to form the polygon. Each set of values must contain exactly two sets of point values (one for latitude and one for longitude) and a sequence number.

### **Attribute(s)**

Name	Type	I	M
ExclusionGRingPointSequenceNo	I	Yes	Yes
ExclusionGRingPointLatitude	LF	No	Yes
ExclusionGRingPointLongitude	LF	No	Yes

## **GranuleGPolygon**

This class represents the granule level G-Ring Polgon.

### **Attribute(s)**

Name	Type	I	M
GPolygonID	N16	No	No

## **GranuleHorizontalSpatialDomain**

This class is used to define the type of horizontal domain that best describes a granule.

### **Attribute(s)**

Name	Type	I	M
HorizontalSpatialDomainType	VVA20	No	Yes

## **GranuleInstrumentCharacteristic**

This class is used to define the characteristics of instrument specific attributes associated with the granule. It should not be used to define attributes of new objects.

### **Attribute(s)**

Name	Type	I	M
InstrumentCharacteristicName	VAA40	Yes	Yes
InstrumentCharacteristicValue	VAA100	No	No

## **GranuleInstrumentSensorXref**

This class is used as a cross reference between specific granules, instruments, and sensor information.

## **GranuleInstrumentXref**

This class identifies the granule instrument's operational modes associated with the channel, wavelength, and FOV.

### **Attribute(s)**

Name	Type	I	M
OperationMode	VA20	No	Yes

## **GranuleOuterGRing**

This class contains coordinates defining the outline of an area covered by a granule or closed nonintersecting boundary of a void polygon (or "hole") in an outer polygon for a granule. Outer rings describe the full coverage extent.

## **GranuleOuterGRingPoint**

This class contains the granule level outer G-Ring attributes which denote the latitude and longitude of the start point of each of a set of geolocation segments, which when combined form an outer polygon. The sequence numbers determine how to connect the starting points in a clockwise direction to form the polygon. Each set of values must contain exactly two sets of point values (one for latitude and one for longitude) and a sequence number.

### **Attribute(s)**

Name	Type	I	M
OuterGRingPointSequenceNo	I	Yes	Yes
OuterGRingPointLatitude	LF	No	No
OuterGRingPointLongitude	LF	No	No

## **GranulePoint**

This class identifies the characteristics of the point area coverage to include the latitude and longitude for the granule.

### **Attribute(s)**

Name	Type	I	M
PointLatitude	LF	No	Yes
PointLongitude	LF	No	Yes

## **GranuleSensorCharacteristic**

This class is used to define the characteristics of sensor specific attributes. It should not be used to define attributes of new objects.

### **Attribute(s)**

Name	Type	I	M
SensorCharacterisiticName	VA40	Yes	Yes
SensorCharacteristicValue	VA80	No	No

## **GranuleStorageMedium**

This class contains the medium on which the data of a specific granule are stored.

### **Attribute(s)**

Name	Type	I	M
GranuleStorageMedium	VA30	Yes	Yes

## **GranuleSummaryProduct**

This class contains attributes which identify summary products which characterize a granule (e.g. browse).

### **Attribute(s)**

Name	Type	I	M
GranuleSummarySize	F5	No	No
GranuleSummaryDescription	VA255	No	No
GranuleSummaryPointer	VA255	No	No
GranuleSummaryType	VA20	No	No

## **GranuleUserCommentDocument**

A class containing a logical pointer to documents used to record user comments on the granule.

### **Attribute(s)**

Name	Type	I	M
GranuleUserCommentDocumentPointer	VA255	No	Yes

## **GranuleVerticalSpatialDomain**

This class represents the vertical extent of the granule expressed in AltitudeDistanceUnits.

### **Attribute(s)**

Name	Type	I	M
VerticalSpatialDomainType	VA20	No	Yes

## **GridCoordinateSystem**

This class contains the name of the grid coordinate system.

### **Attribute(s)**

Name	Type	I	M
GridCoordinateSystemName	VA255	No	Yes

## **Guide**

This class contains the name and data center location of the Guide. This class provides these basic attributes for all guides.

### **Attribute(s)**

Name	Type	I	M
GuideName	VA64	No	Yes
DataCenter	VA64	No	Yes
GuideType	VA30	No	Yes

## **HorizontalCoordinateSystem**

The class is used to define the type of Horizontal Coordinate System (e.g. Geographic, Planar, Local).

### **Attribute(s)**

Name	Type	I	M
HorizontalCoordinateSystemType	VA10	No	Yes

## **InputGranule**

This class contains the logical pointer to the input granule(s).

### **Attribute(s)**

Name	Type	I	M
InputGranuleID	N16	Yes	Yes
InputPointer	VA255	No	Yes

## **InstallableServiceAdvertisement**

This class contains the information required to install software related to an installable service.

### **Attribute(s)**

Name	Type	I	M
FtpURL	VA255	No	Yes
PackageSize	I	No	Yes

## **Instrument**

This class is used to describe attributes of Instruments associated with Collections (e.g. ShortName, LongName). Instruments are devices used to measure or record data, including direct human observation.

### **Attribute(s)**

Name	Type	I	M
InstrumentShortName	VA20	Yes	Yes
InstrumentLongName	VA80	No	No
NumberofSensors	I	No	No
InstrumentTechnique	VA255	No	No

## **InstrumentGuide**

The class contains a logical pointer to instrument guides.

## **JournalArticle**

This class contains the Journal Article name and logical pointer to the article.

### **Attribute(s)**

Name	Type	I	M
JournalArticleName	VA80	No	Yes

## **KeywordClass**

This class defines the source, description, and type of words or phrases summarizing an aspect of a collection.

### **Attribute(s)**

Name	Type	I	M
KeywordID	N16	Yes	Yes
KeywordType	VA8	No	Yes
KeywordSource	VA20	No	No
KeywordDescription	VA255	No	No

## **LocalCoordinateSystem**

This class contains a description of the coordinate system and georeference information.

### **Attribute(s)**

Name	Type	I	M
LocalCoordinateSystemDescription	VA255	No	No
LocalGeoreferenceInformation	VA255	No	No

## **LocalPlanarCoordinateSystem**

This class contains a description of the system and georeference information.

### **Attribute(s)**

Name	Type	I	M
LocalPlanarCoordinateSystemDescription	VA255	No	No
LocalPlanarGeoreferenceInformation	VA255	No	No

## **MapProjection**

This class contains the name of the map projection [the systematic representation of all or part of the surface of the Earth on a plane or developable surface], and a logical pointer to the map projection details.

### **Attribute(s)**

Name	Type	I	M
MapProjectionName	VA80	No	No
MapProjectionPointer	VA255	No	No

## **MeasuredParameter**

This class contains the name of the geophysical parameter expressed in the data, to which quality flags have been assigned. The granule-level ParameterName is analogous to the collection-level ECSParameterKeyword.

### **Attribute(s)**

Name	Type	I	M
ParameterName	VA80	Yes	Yes

## **MimeServiceAdvertisement**

This class references a service readable through the World Wide Web.

### **Attribute(s)**

Name	Type	I	M
ServiceURL	VA255	No	Yes

## **MultipleTypeCollection**

This class contains aggregations of granules.

## **OrbitCalculatedSpatialDomain**

This class is used to describe the characteristics of the orbit calculated spatial domain to include the model name, orbit number, start and stop orbit number, equator crossing date and time, and equator crossing longitude.

### **Attribute(s)**

Name	Type	I	M
EquatorCrossingDate	D	No	No
EquatorCrossingLongitude	LF	No	No

Name	Type	I	M
EquatorCrossingTime	T	No	No
OrbitalModelName	VA80	No	No
OrbitNumber	I	No	No
StartOrbitNumber	I	No	No
StopOrbitNumber	I	No	No

## OrbitParameterGranule

This class contains the logical pointer to the orbit parameter granule. This class contains orbit data for which an association with the granule database exists.

### Attribute(s)

Name	Type	I	M
OrbitParameterGranuleID	N16	Yes	Yes
OrbitParameterPointer	VA255	No	Yes

## OrbitPolygons

The spatial footprint of a predefined orbit.

### Attribute(s)

Name	Type	I	M
Orbit	I	No	No

## PersonOrganizationXref

This class is used to cross reference specific Contact persons with Organizations.

### Attribute(s)

Name	Type	I	M
ContactJobPosition	VA255	Yes	Yes

## PGEGroup

This class contains the attributes identifying and describing the PGE.

### Attribute(s)

Name	Type	I	M
DAPPGName	VA30	No	No
DAPPGEVersion	VA20	No	No
DAPSVersion	VA12	No	No

## PlanarCoordinateSystem

This class is used to type the specific reference system used by the Collection (e.g. Map,, Grid, Local).

### Attribute(s)

Name	Type	I	M
PlanarCoordinateSystemType	A10	No	Yes
PlanarCoordinateEncodingMethod	VA80	No	Yes
PlanarDistanceUnits	VA80	No	Yes

## Platform

This class is used to cross reference specific platforms, missions, cruises, flight numbers, and ETC. An example using the Space Shuttle Flight STS-52:

CollectionPlatformShortName = STS;

CollectionPlatformType = spacecraft

CollectionPlatformMissionNo = 52.

For stationary platforms which do not have a defined "mission number," a sequence number should be supplied.

### Attribute(s)

Name	Type	I	M
PlatformID	N16	Yes	Yes
PlatformSequenceNo	VA10	No	No
PlatformType	VA20	No	No

## **PlatformCharacteristic**

This class is used to define the characteristics of platform specific attributes. It should not be used to define attributes of new objects.

### **Attribute(s)**

Name	Type	I	M
PlatformCharacteristicName	VA40	Yes	Yes
PlatformCharacteristicUnit	VA20	No	Yes
PlatformCharacteristicDataType	A6	No	Yes
PlatformCharacteristicDescription	VA255	No	No
PlatformCharacteristicValue	VA20	No	No

## **PlatformGuide**

This class contains a logical pointer to platform guides.

## **PlatformModel**

This class describes the generic name of a platform associated with an ECSCollection.

### **Attribute(s)**

Name	Type	I	M
PlatformShortName	VA20	Yes	Yes
PlatformLongName	VA80	No	No

## **ProcessingLevel**

The processing level class contains the level identifier and level description of the collection.

### **Attribute(s)**

Name	Type	I	M
ProcessingLevelID	A2	Yes	Yes
ProcessingLevelDescription	VA255	No	Yes

## **ProcessingQA**

This class contains the name of the attribute in error in addition to a brief description of the error that occurred during processing.

**Attribute(s)**

Name	Type	I	M
ProcessingQAAttribute	VA80	Yes	Yes
ProcessingQADescription	VA255	No	No

**ProcessingReport**

This class contains the type and period of the processing report which is produced by the ECS Planning Subsystem.

**Attribute(s)**

Name	Type	I	M
ProcessingReportType	VA15	No	Yes
ProcessingReportPeriod	N	No	No

**ProductAdvertisement**

This class contains a reference to an ECS advertisement.

**Attribute(s)**

Name	Type	I	M
ProductURL	VA255	No	No

**ProductionHistory**

This class contains a logical pointer to the processing history which provides information about the processing of each granule. This includes the input products and granules used to generate the product.

**Attribute(s)**

Name	Type	I	M
ProductionHistoryID	N16	Yes	Yes
ProductionHistoryPointer	VA255	No	Yes

**ProductionPlan**

This class contains the dates, forecast, description, and planned data sets associated with the production plan in addition to the logical pointer to the production plan. This class has searchable attributes plus a pointer to a specification for the plans produced by the ECS Planning Subsystem.

**Attribute(s)**

Name	Type	I	M
ProductionPlanStartDate	DT	No	Yes
DAACName	VA8	No	Yes
PlannedDataSets	VA255	No	Yes
ProductionPlanDescription	VA255	No	No
ProductionPlanEndDate	DT	No	Yes
ProductionPlanForecast	SI	No	No

**ProviderAdvertisement**

This class describes the person or organization that provides the Advertisement. This class must be populated if ServiceAdvertisement or ProductAdvertisement are populated.

**Attribute(s)**

Name	Type	I	M
ProviderURL	VA255	No	Yes

**QAFlags**

This class contains the science, operational and automatic quality flags which indicate the overall quality assurance levels of specific parameter values within a granule.

**Attribute(s)**

Name	Type	I	M
AutomaticQualityFlag	VA64	No	Yes
OperationalQualityFlag	VA20	No	No
ScienceQualityFlagExplanation	VA255	No	No
ScienceQualityFlag	VA25	No	No
OperationalQualityFlagExplanation	VA255	No	No
AutomaticQualityFlagExplanation	VA255	No	No

## **QAGranule**

This class specifies the logical pointer to the QA granule. This class contains material for a separate file or files containing user specified QA information about the granule.

### **Attribute(s)**

Name	Type	I	M
QAGranuleID	N16	Yes	Yes
QAGranulePointer	VA255	No	No

## **QAStats**

This class contains generic quality attributes for the granule, which may vary by parameter.

### **Attribute(s)**

Name	Type	I	M
QAPercentInterpolatedData	I	No	No
QAPercentCloudCover	I	No	No
QAPercentMissingData	I	No	Yes
QAPercentOutofBoundsData	I	No	No

## **QualityTextComment**

A class containing a logical pointer to documents which record details of quality measurement and other comments concerning the collection.

### **Attribute(s)**

Name	Type	I	M
QualityTextCommentPointer	VA255	No	Yes

## **ReferencePaper**

The reference paper class defines the common properties of the underlying reference material, and inherits further attributes from the Document Class.

**Attribute(s)**

Name	Type	I	M
ReferencePaperType	VA40	Yes	Yes
AbstractPointer	VA255	No	Yes
AccessInstructions	VA255	No	Yes
DateofReferencePaperPublication	D	No	Yes
ReferencePaperID	VA20	No	Yes

**RegionalAreaDefinitionGuide**

This class contains the geographic region name and the logical pointer to the regional area definition guides.

**Attribute(s)**

Name	Type	I	M
GeographicalRegionName	VA64	No	Yes

**RegularPeriodic**

This class contains the name of the temporal period in addition to the date, time, duration unit, and value, and cycle duration unit and value. Used at the collection level to describe a collection having granules which cover a regularly occurring period.

**Attribute(s)**

Name	Type	I	M
PeriodName	VA30	Yes	Yes
Period1stDate	D	No	Yes
Period1stTime	T	No	Yes
PeriodCycleDurationUnit	VA15	No	Yes
PeriodCycleDurationValue	F7	No	Yes
PeriodDurationUnit	VA15	No	Yes
PeriodDurationValue	F7	No	Yes

## **Sensor**

This class contains the generic sensor information.

### **Attribute(s)**

Name	Type	I	M
SensorShortName	VA20	Yes	Yes
SensorLongName	VA80	No	Yes
SensorTechnique	VA80	No	No

## **SensorGuide**

This class contains a logical pointer to the sensor guides.

## **ServiceAdvertisement**

This class describes software used to access data found in ProductAdvertisement.

## **Signature**

### **Attribute(s)**

Name	Type	I	M
SeqNumber	I	Yes	Yes
GIPParameterList	VA255	No	No

## **SignatureServiceAdvertisement**

This class contains information that describe services which are executed using an argument list.

### **Attribute(s)**

Name	Type	I	M
ServiceClass	VA100	No	Yes
ServiceName	VA100	No	Yes
Internal Name	VA100	No	No

## **SingleTypeCollection**

This class contains granules that are the output of a single PGE.

### **Attribute(s)**

Name	Type	I	M
AccessConstraints	VA255	No	No
CitationforExternalPublication	VA255	No	No
CollectionState	VA15	No	Yes
MaintenanceandUpdateFrequency	VA15	No	Yes

## **Spatial**

This class defines the type of spatial coverage for a collection (e.g. horizontal, vertical, horizontal & vertical).

### **Attribute(s)**

Name	Type	I	M
SpatialID	N16	Yes	Yes
SpatialCoverageType	VA25	No	Yes

## **SpatialKeywordClass**

This class contains the spatial keywords associated with the ECS collection.

### **Attribute(s)**

Name	Type	I	M
SpatialKeyword	VA40	No	Yes

## **SSAPComponent**

This class defines the software component associated with the AlgorithmPackage.

### **Attribute(s)**

Name	Type	I	M
ComponentName	VA80	Yes	Yes
ComponentType	VA40	No	Yes
SSAPAlgorithmPackageName	VA80	No	No

Name	Type	I	M
SSAPInsertDate	DT	No	No

## SSAPComponentAPVersion

This class defines the version of a software component.

### Attribute(s)

Name	Type	I	M
ComponentID	N16	Yes	Yes
SWVersion	VA12	No	Yes

## StratumKeywordClass

This class contains the name and vertical extent of vertical locations covered by a collection (e.g. stratosphere).

### Attribute(s)

Name	Type	I	M
StratumKeyword	VA40	No	Yes
StratumUnits	VA10	No	Yes
StratumMinimumAltitude	F	No	No
StratumMaximumAltitude	F	No	No

## SummaryProduct

This class identifies and references summary products that characterize an entire collection. The specifications for summary products are TBD.

### Attribute(s)

Name	Type	I	M
SummaryProductID	N16	Yes	Yes
SummaryProductPointer	VA255	No	No
SummaryProductSize	F5	No	No
SummaryProductDescription	VA255	No	No
SummaryProductType	VA20	No	No

## **Telephone**

This class contains the telephone details associated with the contact.

### **Attribute(s)**

Name	Type	I	M
TelephoneNumberType	VA10	Yes	Yes
TelephoneNumber	VA23	Yes	Yes

## **TemporalKeywordClass**

This class contains temporal keywords which describe a collection.

### **Attribute(s)**

Name	Type	I	M
TemporalKeyword	VA40	No	Yes
BeginningDateTime	DT	No	No
EndingDateTime	DT	No	No

## **ThematicKeywordClass**

This class contains the theme keywords associated with the ECS collection.

### **Attribute(s)**

Name	Type	I	M
ThemeKeyword	VA40	No	No

## **ValidationDocument**

A class containing a logical pointer to a document used to record details of validation steps used for the assessment of granule and overall collection quality.

### **Attribute(s)**

Name	Type	I	M
ValidationDocumentPointer	VA255	No	No

## **VerticalCoordinateSystem**

This class defines the type of vertical coordinate system of a collection ( e.g. depth, altitude).

### **Attribute(s)**

Name	Type	I	M
VerticalCoordinateSystemType	VA8	No	Yes

## **ZoneIdentifierClass**

This class contains the zone identifier of the various zones in the associated grid coordinate system. See domain values of coordinate system for constraints on the zone numbers.

### **Attribute(s)**

Name	Type	I	M
ZoneIdentifier	VA64	No	Yes

### **2.1.3 Attribute Descriptions (Earth Science Metadata Specifications)**

Table 2-3 provides a list of all attributes in the Model and their respective datatypes. Descriptions of the attributes are provided in the following section, each with a reference to the class it can be found in.

**Table 2-3. Attribute Reference Table (1 of 6)**

Attribute Name	DataType	Attribute Name	DataType
1) AbscissaResolution	F7	17) AdditionalAttributeUnitofMeasurement	VA20
2) AbstractPointer	VA255	18) AdditionalAttributeUnitofMeasurement	VA20
3) AccessConstraints	VA255	19) AdditionalAttributeValue	VA20
4) AccessInstructions	VA255	20) AdditionalAttributeValueAccuracy	VA30
5) AdditionalAttributeDatatype	VA10	21) AdditionalAttributeValueAccuracy	VA30
6) AdditionalAttributeDatatype	VA10	22) AdditionalAttributeValueAccuracyExplanation	VA255
7) AdditionalAttributeDescription	VA255	23) AdditionalAttributeValueAccuracyExplanation	VA255
8) AdditionalAttributeDescription	VA255	24) AddressID	N16
9) AdditionalAttributeMeasurementResolution	VA30	25) AdvertisementFlag	BL
10) AdditionalAttributeMeasurementResolution	VA30	26) AdvertisementType	VA80
11) AdditionalAttributeName	VA40	27) AdvertisementUR	VA255
12) AdditionalAttributeName	VA40	28) AggregationAttribute	VA20
13) AdditionalAttributeRangeBegin	VA20	29) AggregationRelationship	VA2
14) AdditionalAttributeRangeBegin	VA20	30) AggregationValue	VA80
15) AdditionalAttributeRangeEnd	VA20	31) AlgorithmPackageAcceptDate	D
16) AdditionalAttributeRangeEnd	VA20	32) AlgorithmPackageID	N16

**Table 2-3. Attribute Reference Table (2 of 6)**

Attribute Name	DataType	Attribute Name	DataType
33) AlgorithmPackageMaturityCode	A15	75) CollectionMaximumDepth	F
34) AlgorithmPackageName	VA80	76) CollectionMinimumAltitude	F
35) AlgorithmPackageRole	VA20	77) CollectionMinimumDepth	F
36) AlgorithmPackageVersion	VA20	78) CollectionNorthBoundingCoordinate	LF
37) AltitudeDatumName	VA40	79) CollectionPlatformType	VA20
38) AltitudeDistanceUnits	VA20	80) CollectionPointLatitude	LF
39) AltitudeEncodingMethod	VA255	81) CollectionPointLongitude	LF
40) AltitudeResolution	F	82) CollectionRadiusUnits	VA10
41) AnalysisLongName	VA80	83) CollectionRadiusValue	F
42) AnalysisShortName	VA20	84) CollectionSensorCharacteristicDataType	A6
43) AnalysisTechnique	VA80	85) CollectionSensorCharacteristicDescription	VA255
44) AnalysisType	VA20	86) CollectionSensorCharacteristicName	VA40
45) AncillaryGranuleID	VA20	87) CollectionSensorCharacteristicUnit	VA20
46) AncillaryInputType	VA20	88) CollectionSouthBoundingCoordinate	LF
47) AncillaryPointer	VA255	89) CollectionState	VA15
48) AutomaticQualityFlag	VA64	90) CollectionStorageMedium	VA30
49) AutomaticQualityFlagExplanation	VA255	91) CollectionType	VA20
50) BearingReferenceDirection	VA20	92) CollectionUse	VA255
51) BearingReferenceMeridian	VA10	93) CollectionVerticalSpatialDomainType	VA20
52) BearingResolution	F16	94) CollectionWestBoundingCoordinate	LF
53) BearingUnits	VA80	95) ComponentID	N16
54) BeginningDateTime	DT	96) ComponentName	VA80
55) CampaignEndDate	D	97) ComponentType	VA40
56) CampaignLongName	VA80	98) ContactID	N16
57) CampaignShortName	VA20	99) ContactInstructions	VA255
58) CampaignStartDate	D	100) ContactJobPosition	VA255
59) CircleCenterLatitude	LF	101) ContactType	VA30
60) CircleCenterLongitude	LF	102) Country	VA30
61) CitationforExternalPublication	VA255	103) CSDTComments	VA255
62) City	VA35	104) DAACName	VA8
63) CollectionBeginningDate	D	105) DAPID	VA12
64) CollectionBeginningTime	T	106) DAPInsertDate	DT
65) CollectionCenterLatitude	SF	107) DAPPGEName	VA30
66) CollectionCenterLongitude	SF	108) DAPPGEVersion	VA20
67) CollectionDescription	VA255	109) DAPSVersion	VA12
68) CollectionEastBoundingCoordinate	LF	110) DataCenter	VA64
69) CollectionEndingDate	D	111) DateofReferencePaperPublication	D
70) CollectionEndingTime	T	112) DateType	VA10
71) CollectionGroupType	VA20	113) DayNightFlag	VA5
72) CollectionHorizontalSpatialDomainType	VA17	114) DeliveryPurpose	VA20
73) CollectionID	N16	115) DenominatorofFlatteningRatio	F5
74) CollectionMaximumAltitude	F	116) DepthDatumName	VA50

**Table 2-3. Attribute Reference Table (3 of 6)**

Attribute Name	DataType	Attribute Name	DataType
117) DepthDistanceUnits	VA20	159) GazAddress	VA255
118) DepthEncodingMethod	VA255	160) GazAuthor	VA255
119) DepthResolution	F	161) GazBeginningDate	DT
120) Description	VA255	162) GazBeginningDate	DT
121) DescriptionType	VA40	163) GazChild	N16
122) DistanceResolution	F7	164) GazCity	VA255
123) DocumentCreated	DT	165) GazContributorId	N16
124) DocumentFormat	VA10	166) GazCountry	VA255
125) DocumentID	N16	167) GazDescription	VA255
126) DocumentPointer	VA255	168) GazEastBoundingCoordinate	N11,6
127) DocumentRole	VA20	169) GazEdition	VA255
128) DocumentSize	I	170) GazEndingDate	DT
129) DocumentTitle	VA255	171) GazEntryDate	DT
130) DocumentType	VA30	172) GazFeatureID	N16
131) DocumentUpdated	DT	173) GazFeatureName	VA255
132) DocumentVersion	VA255	174) GazFeatureName	VA255
133) EastBoundingCoordinate	LF	175) GazFeatureType	VA255
134) ECSDataGranuleID	N16	176) GazFeatureTypeId	N16
135) ECSDataGranuleSize	N10	177) GazLatitude	LF
136) ECSDisciplineKeyword	VA24	178) GazLatitude	LF
137) ECSKeywordID	N16	179) GazLatitude	LF
138) ECSParameterKeyword	VA80	180) GazLocationId	N16
139) ECSTermKeyword	VA50	181) GazLocationType	I
140) ECSTopicKeyword	VA32	182) GazLongitude	LF
141) ECSVariableKeyword	VA80	183) GazLongitude	LF
142) ElectronicMailAddress	VA255	184) GazLongitude	LF
143) ElectronicMailID	N16	185) GazNameAuthority	VA255
144) EllipsoidName	VA255	186) GazNameAuthority	VA255
145) EndingDateTime	DT	187) GazNamePerson	VA255
146) EndsatPresentFlag	BL	188) GazNorthBoundingCoordinate	N11,6
147) EquatorCrossingDate	D	189) GazOrganization	VA255
148) EquatorCrossingLongitude	LF	190) GazPages	VA255
149) EquatorCrossingTime	T	191) GazParent	N16
150) ExclusionGRingPointLatitude	LF	192) GazPostalCode	VA255
151) ExclusionGRingPointLatitude	LF	193) GazPublicationDate	DT
152) ExclusionGRingPointLongitude	LF	194) GazPublisher	VA255
153) ExclusionGRingPointLongitude	LF	195) GazSequenceNo	I
154) ExclusionGRingPointSequenceNo	I	196) GazSeriesIssue	VA255
155) ExclusionGRingPointSequenceNo	I	197) GazSeriesName	VA255
156) ExpirationDate	DT	198) GazSourceID	N16
157) FirstName	VA20	199) GazSouthBoundingCoordinate	N11,6
158) FtpURL	VA255	200) GazStateorProvince	VA20

**Table 2-3. Attribute Reference Table (4 of 6)**

Attribute Name	DataType	Attribute Name	DataType
201) GazStatus	BL	243) KeywordID	N16
202) GazStatus	BL	244) KeywordSource	VA20
203) GazTitle	VA255	245) KeywordType	VA8
204) GazWestBoundingCoordinate	N11,6	246) LastName	VA20
205) GeodeticModelID	N16	247) LastReviewDate	D
206) GeographicalRegionName	VA64	248) LatitudeResolution	LF
207) GeographicCoordinateUnits	VA80	249) LocalCoordinateSystemDescription	VA255
208) GIPparameterList	VA255	250) LocalGeoreferenceInformation	VA255
209) GPolygonID	N16	251) LocalGranuleID	VA80
210) GPolygonID	N16	252) LocalPlanarCoordinateSystemDescription	VA255
211) GranulePointer	VA255	253) LocalPlanarGeoreferenceInformation	VA255
212) GranuleSpatialDomainType	VA10	254) LocalVersionID	VA60
213) GranuleStorageMedium	VA30	255) LongitudeResolution	LF
214) GranuleSummaryDescription	VA255	256) LongName	VA80
215) GranuleSummaryPointer	VA255	257) MaintenanceandUpdateFrequency	VA15
216) GranuleSummarySize	F5	258) MapProjectionName	VA80
217) GranuleSummaryType	VA20	259) MapProjectionPointer	VA255
218) GranuleUserCommentDocumentPointer	VA255	260) MaximumAltitude	F
219) GridCoordinateSystemName	VA255	261) MaximumDepth	F
220) GuideName	VA64	262) MiddleName	VA20
221) GuideType	VA30	263) MinimumAltitude	F
222) HorizontalCoordinateSystemType	VA10	264) MinimumDepth	F
223) HorizontalDatumName	VA30	265) NorthBoundingCoordinate	LF
224) HorizontalSpatialDomainType	VA20	266) NumberofSensors	I
225) HoursofService	VA255	267) ObservationFrequency	VA20
226) Implementation	VA30	268) OldGazFeatureID	N16
227) IndirectReference	VA100	269) OperationalQualityFlag	VA20
228) InputGranuleID	N16	270) OperationalQualityFlagExplanation	VA255
229) InputPointer	VA255	271) OperationMode	VA20
230) InstrumentCharacteristicDataType	A6	272) Orbit	I
231) InstrumentCharacteristicDescription	VA255	273) Orbital modelName	VA80
232) InstrumentCharacteristicName	VA40	274) OrbitNumber	I
233) InstrumentCharacteristicName	VA40	275) OrbitParameterGranuleID	N16
234) InstrumentCharacteristicUnit	VA20	276) OrbitParameterPointer	VA255
235) InstrumentCharacteristicValue	VA100	277) OrdinateResolution	F7
236) InstrumentCharacteristicValue	VA100	278) OrganizationLongName	VA255
237) InstrumentLongName	VA80	279) OrganizationShortName	VA30
238) InstrumentShortName	VA20	280) OuterGRingPointLatitude	LF
239) InstrumentTechnique	VA855	281) OuterGRingPointLatitude	LF
240) Internal Name	VA100	282) OuterGRingPointLongitude	LF
241) JournalArticleName	VA80	283) OuterGRingPointLongitude	LF
242) KeywordDescription	VA255	284) OuterGRingPointSequenceNo	I

**Table 2-3. Attribute Reference Table (5 of 6)**

Attribute Name	DataType	Attribute Name	DataType
285) OuterGRingPointSequenceNo	I	327) ProcessingLevelDescription	VA255
286) PackageSize	I	328) ProcessingLevelID	A2
287) ParameterMeasurementResolution	VA30	329) ProcessingQAAttribute	VA80
288) ParameterName	VA80	330) ProcessingQADescription	VA255
289) ParameterRangeBegin	VA20	331) ProcessingReportPeriod	N
290) ParameterRangeEnd	VA20	332) ProcessingReportType	VA15
291) ParameterUnitsofMeasurement	VA20	333) ProductionDateTime	DT
292) ParameterValueAccuracy	VA30	334) ProductionHistoryID	N16
293) ParameterValueAccuracyExplanation	VA255	335) ProductionHistoryPointer	VA255
294) Period1stDate	D	336) ProductionPlanDescription	VA255
295) Period1stTime	T	337) ProductionPlanEndDate	DT
296) PeriodCycleDurationUnit	VA15	338) ProductionPlanForecast	SI
297) PeriodCycleDurationValue	F7	339) ProductionPlanStartDate	DT
298) PeriodDurationUnit	VA15	340) ProductURL	VA255
299) PeriodDurationValue	F7	341) ProviderURL	VA255
300) PeriodName	VA30	342) QAGranuleID	N16
301) PGEDateLastModified	DT	343) QAGranulePointer	VA255
302) PGEFunction	VA80	344) QAPercentCloudCover	I
303) PGEIdentifier	VA15	345) QAPercentInterpolatedData	I
304) PGENAME	VA80	346) QAPercentMissingData	I
305) PGENAME	VA80	347) QAPercentOutofBoundsData	I
306) PGEVersion	VA60	348) QualityTextCommentPointer	VA255
307) PGEVersion	VA60	349) RadiusUnits	VA10
308) PlanarCoordinateEncodingMethod	VA80	350) RadiusValue	F
309) PlanarCoordinateSystemType	A10	351) RangeBeginningDate	D
310) PlanarDistanceUnits	VA80	352) RangeBeginningTime	T
311) PlannedDataSets	VA255	353) RangeEndingDate	D
312) PlatformCharacteristicDataType	A6	354) RangeEndingTime	T
313) PlatformCharacteristicDescription	VA255	355) ReferencePaperID	VA20
314) PlatformCharacteristicName	VA40	356) ReferencePaperType	VA40
315) PlatformCharacteristicUnit	VA20	357) ReprocessingActual	VA20
316) PlatformCharacteristicValue	VA20	358) ReprocessingPlanned	VA20
317) PlatformID	N16	359) RevisionDate	D
318) PlatformLongName	VA80	360) Role	VA20
319) PlatformSequenceNo	VA10	361) ScienceQualityFlag	VA25
320) PlatformShortName	VA20	362) ScienceQualityFlagExplanation	VA255
321) PlatformType	VA20	363) SemiMajorAxis	F8
322) PointLatitude	LF	364) SensorCharacterisiticName	VA40
323) PointLongitude	LF	365) SensorCharacteristicValue	VA80
324) PostalCode	VA15	366) SensorLongName	VA80
325) PrecisionofSeconds	I	367) SensorShortName	VA20
326) PrimaryCSDT	VA30	368) SensorTechnique	VA80

**Table 2-3. Attribute Reference Table (6 of 6)**

Attribute Name	DataType	Attribute Name	DataType
369) SeqNumber	I	393) SummaryProductDescription	VA255
370) SeqNumber	I	394) SummaryProductID	N16
371) SeqNumber	I	395) SummaryProductPointer	VA255
372) ServiceClass	VA100	396) SummaryProductSize	F5
373) ServiceName	VA100	397) SummaryProductType	VA20
374) ServiceURL	VA255	398) SWDateLastModified	DT
375) ShortName	A8	399) SWVersion	VA12
376) SouthBoundingCoordinate	LF	400) TelephoneNumber	VA23
377) SpatialCoverageType	VA25	401) TelephoneNumberType	VA10
378) SpatialDomainType	A10	402) TemporalKeyword	VA40
379) SpatialID	N16	403) TemporalRangeType	VA30
380) SpatialKeyword	VA40	404) ThemeKeyword	VA40
381) SSAPAlgorithmPackageName	VA80	405) TimeType	VA10
382) SSAPIInsertDate	DT	406) Title	VA100
383) StartDate	DT	407) UniqueID	N8
384) StartOrbitNumber	I	408) UpperTitle	VA100
385) StateProvince	VA20	409) UserCommentDocumentPointer	VA255
386) StopOrbitNumber	I	410) ValidationDocumentPointer	VA255
387) StratumKeyword	VA40	411) VersionID	VA255
388) StratumMaximumAltitude	F	412) VerticalCoordinateSystemType	VA8
389) StratumMinimumAltitude	F	413) VerticalSpatialDomainType	VA20
390) StratumUnits	VA10	414) WestBoundingCoordinate	LF
391) StreetAddress	VA80	415) ZoneIdentifier	VA64
392) SuggestedUsage	VA255		

## AbscissaResolution

The (nominal) minimum distance between the 'x' or column values of two adjacent points, expressed in Planar Distance Units of measure. Planar Distance Units of measure are units used for distances whose domain values are meters, international feet, and survey feet.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

## Class

CoordinateRepresentation

## **AbstractPointer**

Pointer to the reference paper article abstract.

Content Source: DSS

Reference Document: 420-TP-015-001, February 1997

### **Class**

ReferencePaper

## **AccessConstraints**

Restrictions and legal prerequisites for accessing the collection. These include any access constraints applied to assure the protection of privacy or intellectual property, and any special restrictions or limitations on obtaining the collection.

These restrictions differ from Use Restrictions in that they only apply to access.

Content Source: DP; DAAC

Reference Document: 420-TP-015-001, February 1997

### **Class**

SingleTypeCollection

## **AccessInstructions**

Instructions describing how to obtain electronic access to a stand-alone document. May simply be an anonymous ftp site address, or a World Wide Web homepage URL. Data Provider Sites may establish additional instruction requirements.

Content Source: DP; DAAC

Reference Document: 420-TP-015-001, February 1997

### **Class**

ReferencePaper

## **AdditionalAttributeDatatype**

The internal datatype of AdditionalAttributeValue.

Content Source: DP

Domain:

int  
varchar  
float  
date  
time  
datetime

Reference Document: 420-TP-015-001, February 1997

### **Class**

CollectionAdditionalAttributes  
GranuleAdditionalAttributes

## **AdditionalAttributeDescription**

Description of the attribute named by AdditionalAttributeName.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

### **Class**

CollectionAdditionalAttributes  
GranuleAdditionalAttributes

## **AdditionalAttributeMeasurementResolution**

The minimum resolution of the AdditionalAttributes expressed in AdditionalAttributesUnitsofMeasure.

Content Source: DP

### **Class**

CollectionAdditionalAttributes  
GranuleAdditionalAttributes

### **AdditionalAttributeName**

The label of the Additional Attribute.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

#### **Class(s)**

CollectionAdditionalAttributes

GranuleAdditionalAttributes

### **AdditionalAttributeRangeBegin**

The minimum value of the range.

Content Source: DP

#### **Class(s)**

CollectionAdditionalAttributes

GranuleAdditionalAttributes

### **AdditionalAttributeRangeEnd**

The maximum value of the range.

Content Source: DP

#### **Class(s)**

CollectionAdditionalAttributes

GranuleAdditionalAttributes

### **AdditionalAttributeUnitofMeasurement**

The standard units of measurement for a non-core attribute.

Content Source: DP

**Class(s)**

CollectionAdditionalAttributes

GranuleAdditionalAttributes

**AdditionalAttributeValue**

The values that can be assigned to an additional attribute used at granule level.

Content Source: PGE(granule)

Domain:

Free Text

**Class(s)**

GranuleAdditionalAttributeXref

CollectionAdditionalAttributeXref

**AdditionalAttributeValueAccuracy**

An estimate of the accuracy of the additional attribute value.

Content Source: DP

**Class(s)**

CollectionAdditionalAttributes

GranuleAdditionalAttributes

**AdditionalAttributeValueAccuracyExplanation**

The method used for determining the AdditionalAttribute accuracy.

Content Source: DP

**Class(s)**

CollectionAdditionalAttributes

GranuleAdditionalAttributes

## **AddressID**

The unique identifier of the address.

Content Source: DSS

### **Class**

ContactAddress

## **AdvertisementFlag**

This flag is used to identify whether the collection can be advertised.

Content Source: DS

### **Class**

ECSCollection

## **AdvertisementType**

Type of advertisement (e.g. product, provider or service).

Content Source: IOS

Domain:

advertisement product  
advertisement service  
advertisement provider  
advertisement service signature  
advertisement service installable  
advertisement service mime

### **Class**

AdvertisementMaster

## **AdvertisementUR**

Universal Reference to the server that can execute a service.

Content Source: IOS

**Class**

AdvertisementUR

**AggregationAttribute**

The AggregationAttribute is the appropriate ECS attribute name used to specify the aggregation criteria of the multi-type collection (e.g. InstrumentShortName).

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

**Class**

AggregationCriteria

**AggregationRelationship**

This attribute identifies the relationship between the aggregation attribute and its corresponding value. This relationship may be expressed as boolean operations i.e. '=' < , > , ne'

Content Source: DP

Domain:

'=' - Equal

GT - Greater Than

LT - Less Than

NE - Not Equal

GE - Greater Than or Equal

LE - Less Than or Equal

Reference Document: 420-TP-015-001, February 1997

**Class**

AggregationCriteria

## **AggregationValue**

This attribute contains the value associated with an aggregation attribute. For example, AggregationAttribute = TemporalKeyword

AggregationRelationship = "Equal"

AggregationValue = "MidWest Flood of 1993"

Content Source: DP

Domain:

Free Text

Reference Document: 420-TP-015-001, February 1997

### **Class**

AggregationCriteria

## **AlgorithmPackageAcceptDate**

This attribute specifies the date that this package version successfully passed AI&T procedures and was accepted as ECS standard algorithm.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

### **Class**

AlgorithmPackage

## **AlgorithmPackageID**

The unique identifier of Science Software Algorithm Package (SSAP).

Content Source: DP

### **Class**

AlgorithmPackage

## **AlgorithmPackageMaturityCode**

This specifies the maturity of the algorithm package as a whole. Maturity code plus version number tells version state.

Content Source: DP

Domain:

pre-launch - preflight development code

preliminary - EOS platform is flying development code at best; frequently changing, not stable.

operational - production code, will change, but not frequently; preliminary validation has been done.

stable - code stable and has been fully validated.

final - final version of code, mission is over.

Reference Document: 420-TP-015-001, February 1997

### **Class**

AlgorithmPackage

## **AlgorithmPackageName**

This attribute is the name given to the complete delivered package submitted for algorithm integration and test.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

### **Class**

AlgorithmPackage

## **AlgorithmPackageRole**

Classification of individuals who are associated with a given algorithm package.

Content Source: DP

Domain:

Distributor

Producer

**Class**

AlgorithmPackageContactXref

**AlgorithmPackageVersion**

This attribute specifies the version of the full package being delivered.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

**Class**

AlgorithmPackage

**AltitudeDatumName**

The identification given to the level surface taken as the surface of reference from which altitudes are measured.

Content Source: DP

Domain:

National Geodetic Vertical Datum of 1929 (NGVD29)

North American Vertical Datum of 1988 (NGVD88)

Free Text

Reference Document: 420-TP-015-001, February 1997

**Class**

AltitudeSystemDefinition

**AltitudeDistanceUnits**

Units in which altitudes are recorded.

Content Source: DP

Domain:

meters

feet

millibars - Used to measure pressure levels

theta value - Units used to measure geopotential height

hectoPascals

kilometers

Reference Document: 420-TP-015-001, February 1997

**Class**

AltitudeSystemDefinition

**AltitudeEncodingMethod**

The means used to encode the altitudes.

Content Source: DP

Domain:

Attribute Values

Explicit elevation coordinate included with horizontal coordinates

Implicit coordinate

Reference Document: 420-TP-015-001, February 1997

**Class**

AltitudeSystemDefinition

**AltitudeResolution**

The minimum distance possible between two adjacent altitude values, expressed in Altitude Distance Units of measure.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

**Class**

AltitudeSystemDefinition

**AnalysisLongName**

The expanded or long name of the analysis source identified using CollectionAnalysisShortName.

CollectionAnalysisLongName is intended to categorize collections by the processes which collected (e.g. census survey) or produced them (e.g. NMC 16-level Nested Grid Model).

Content Source: DP (Collection)

Reference Document: 420-TP-015-001, February 1997

**Class**

AnalysisSource

**AnalysisShortName**

AnalysisShortName is the unique identifier of the collection or analysis process(s) which best characterize the ECSCollection or Granule. ECSCollections or Granules may be characterized by both a collection and an analysis data set which included data collected using the NWS ASOS network (PlatformType=Network, PlatformShortName= ASOS) which was processed using an NMC analysis model (e.g. AnalysisType=Model, AnalysisShortName= RAFS, AnalysisDescription= Regional Area Forecast System, AnalysisTechnique= Regional Optimal Interpolation.)

Content Source: DP (Collection); PGE (Granule)

Reference Document: 420-TP-015-001, February 1997

**Class**

AnalysisSource

**AnalysisTechnique**

The technique or process used to produce the analysis source. (e.g. 16 layer nested grid model).

Content Source: DP (Collection)

Reference Document: 420-TP-015-001, February 1997

**Class**

AnalysisSource

**AnalysisType**

The defined type of analysis source.

Content Source: DP (Collection)

Domain:

Model

Report

Map

Survey

Chart

Publication

Reference Document: 420-TP-015-001, February 1997

**Class**

AnalysisSource

**AncillaryGranuleID**

The unique identifier of AncillaryGranule.

Content Source: DSS

Domain:

Climatology

Geolocation

Meteorological

**Class**

AncillaryGranule

**AncillaryInputType**

This attribute specifies the type of ancillary input granules.

Content Source: DSS

**Class**

AncillaryGranule

**AncillaryPointer**

Data model logical reference to ancillary input data.

Content Source: DSS

Reference Document: 420-TP-015-001, February 1997

**Class**

AncillaryGranule

**AutomaticQualityFlag**

The granule level flag applying generally to the granule and specifically to parameters the granule level. When applied to parameter, the flag refers to the quality of that parameter for the granule (as applicable). The parameters determining whether the flag is set are defined by the developer and documented in the Quality Flag Explanation.

Content Source: PGE

Domain:

Passed - The granule (forparameter) has passed a specified automatic test.

Failed - The granule (forparameter) has failed a specified automatic test.

Suspect - May be okay; could not clearly define.

**Class**

QAFlags

**AutomaticQualityFlagExplanation**

A text explanation of the criteria used to set Automatic Quality Flag; including thresholds or other criteria.

Content Source: PGE

**Class**

QAFlags

**BearingReferenceDirection**

Direction from which the bearing is measured clockwise.

Content Source: DP

Domain:

North

South

Reference Document: 420-TP-015-001, February 1997

**Class**

DistanceandBearingRepresentation

**BearingReferenceMeridian**

Axis from which the bearing is measured.

Content Source: DP

Domain:

Assumed  
Grid  
Magnetic  
Astronomic  
Geodetic

Reference Document: 420-TP-015-001, February 1997

**Class**

DistanceandBearingRepresentation

**BearingResolution**

The minimum angle measurable between two points, expressed in Bearing Units of measure.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

**Class**

DistanceandBearingRepresentation

**BearingUnits**

Units of measure used for angles.

Content Source: DP

Domain:

Decimal Degrees  
Decimal Minutes

Decimals Seconds  
Degrees and Decimal Minutes  
Degrees, minutes, and decimal seconds  
Radians  
Grads

Reference Document: 420-TP-015-001, February 1997

**Class**

DistanceandBearingRepresentation

**BeginningDateTime**

The Beginning Date Time for a collection.

Content Source: DP

**Class**

TemporalKeywordClass

**CampaignEndDate**

The ending date of the campaign.

Content Source: DP (Collection)

Reference Document: 420-TP-015-001, February 1997

**Class**

Campaign

**CampaignLongName**

The expanded name of the campaign/experiment (e.g. Global Climate Observing System).

Content Source: DP (Collection)

Domain:

Clouds and the Earth's Radiant Energy

Reference Document: 420-TP-015-001, February 1997

**Class**

Campaign

**CampaignShortName**

The unique identifier by which a campaign/project/experiment is known. The campaign/project is the scientific endeavor associated with the acquisition of the collection. Collections may be associated with multiple campaigns.

Content Source: DP (Collection); PGE (Granule)

Domain:

CERES

Reference Document: 420-TP-015-001, February 1997

**Class**

Campaign

**CampaignStartDate**

The starting date of a campaign/project/experiment.

Content Source: DP (Collection)

Reference Document: 420-TP-015-001, February 1997

**Class**

Campaign

**CircleCenterLatitude**

Geodetic latitude of center of locality.

Content Source: PGE(granule)

**Class**

GranuleCircle

## **CircleCenterLongitude**

Longitude of approximate center of locality.

Content Source: DP(collection);PGE(granule)

### **Class**

GranuleCircle

## **CitationforExternalPublication**

The recommended reference to be used when referring to this collection in publications. Its format is free text, but should include: Originator (the name of an organization or individual that developed the data set, where Editor(s)' names are followed by (ed.) and Compiler(s)' names are followed by (comp.)); Publication date (the date of publication or release of the data set); Title (the name by which document can be referenced).

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

### **Class**

SingleTypeCollection

## **City**

The city of the person or organization.

Content Source: DP

Domain:

Free Text

Reference Document: 420-TP-015-001, February 1997

### **Class**

ContactAddress

## **CollectionBeginningDate**

The year (and optionally month, or month and day) when the temporal coverage period being described began.

Content Source: DP(collection);PGE(granule)

Reference Document: 420-TP-015-001, February 1997

### **Class**

CollectionDateTime

## **CollectionBeginningTime**

The first hour (and optionally minute, or minute and second) of the temporal coverage period being described.

Content Source: DP(collection);PGE(granule)

Reference Document: 420-TP-015-001, February 1997

### **Class**

CollectionDateTime

## **CollectionCenterLatitude**

Geodetic latitude of center of locality.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

### **Class**

CollectionCircle

## **CollectionCenterLongitude**

Longitude of approximate center of locality.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

**Class**

CollectionCircle

**CollectionDescription**

This attribute identifies the major emphasis of the content of the collection. Some examples are: 'cloud top products generated from instrument X', or 'all products containing the parameter sea surface temperature as skin temp'.

Content Source: DP

Domain:

Free Text

reference RTM ECS ESDT ShortName Baseline and proposed ESDT ShortName Baseline on EDHS

Reference Document: 420-TP-015-001, February 1997

**Class**

ECSCollection

**CollectionEastBoundingCoordinate**

Eastern-most limit of coverage expressed in longitude.

Content Source: DP(collection);PGE(granule)

Reference Document: 420-TP-015-001, February 1997

**Class**

CollectionBoundingRectangle

**CollectionEndingDate**

The last year (and optionally month, or month and day) of the temporal coverage period being described.

Content Source: DP(collection);PGE(granule)

Reference Document: 420-TP-015-001, February 1997

**Class**

CollectionDateTime

## **CollectionEndTime**

The last hour (and optionally minute, or minute and second) of the temporal coverage period being described for a collection.

Content Source: DP(collection);PGE(granule)

Reference Document: 420-TP-015-001, February 1997

### **Class**

CollectionDateTime

## **CollectionGroupType**

Type of associated collection being described. Used to describe the 'geneology' of the collection in terms of other collections and supports production history.

Content Source: DP

Domain:

Input - Collection used as input or ancillary to this collection.

Dependent - Collections which use this collection as input, including browse.

Science Associated - Collections with which this collection is associated in science terms.

Aggregation - Hierarchical association of collections.

Reference Document: 420-TP-015-001, February 1997

### **Class**

CollectionAssociation

## **CollectionHorizontalSpatialDomainType**

The type of horizontal domain.

### **Class**

CollectionHorizontalSpatialDomain

## **CollectionID**

The unique identifier of ECSCollection.

### **Class**

ECSCollection

## **CollectionMaximumAltitude**

The maximum altitude extent of the collection expressed in AltitudeDistanceUnits.

Content Source: DP

### **Class**

CollectionAltitudeDomain

## **CollectionMaximumDepth**

The maximum depth extent of the collection expressed in DepthDistanceUnits.

### **Class**

CollectionDepthDomain

## **CollectionMinimumAltitude**

The minimum altitude extent of the collection expressed in AltitudeDistanceUnits.

Content Source: DP

### **Class**

CollectionAltitudeDomain

## **CollectionMinimumDepth**

The minimum depth extent of the collection expressed in DepthDistanceUnits.

Content Source: DP

**Class**

CollectionDepthDomain

**CollectionNorthBoundingCoordinate**

Northern-most coordinate of the limit of coverage expressed in geodetic latitude.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

**Class**

CollectionBoundingRectangle

**CollectionPointLatitude**

A single geodetic latitudinal value.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

**Class**

CollectionPoint

**CollectionPointLongitude**

A single longitudinal value.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

**Class**

CollectionPoint

## **CollectionRadiusUnits**

The unit of measurement describing the distance from the center of spatial extent or coverage to the furthest point covered by the spatial extent of the locality used to determine a circular region representing general extent or coverage.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

### **Class**

CollectionCircle

## **CollectionRadiusValue**

The distance from the center of spatial extent or coverage to the furthest point covered by the spatial extent of the locality, stated in RadiusUnits, used to determine a circular region representing general extent or coverage.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

### **Class**

CollectionCircle

## **CollectionSensorCharacteristicDataType**

The datatype of the Instrument Characteristic/attribute defined by InstrumentCharacteristicName.

Content Source: DP (Collection)

Reference Document: 420-TP-015-001, February 1997

### **Class**

CollectionSensorCharacteristic

## **CollectionSensorCharacteristic Description**

A description of the attribute defined by SensorCharacteristicName. (e.g. SensorCharacteristicName=SensorDevice, SensorCharacteristicDescription= Charge coupled device).

Content Source: DP (Collection)

Reference Document: 420-TP-015-001, February 1997

**Class**

CollectionSensorCharacteristic

**CollectionSensorCharacteristicName**

The name of the Sensor Characteristic/attribute. Sensor attributes defined using SensorCharacteristicName must be single-valued attributes of the object 'Sensor' and not attributes of undefined objects.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

**Class**

CollectionSensorCharacteristic

**CollectionSensorCharacteristicUnit**

The unit of the Sensor Characteristic (e.g. nanometers).

Content Source: DP (Collection)

Reference Document: 420-TP-015-001, February 1997

**Class**

CollectionSensorCharacteristic

**CollectionSouthBoundingCoordinate**

Southern-most limit of coverage expressed in geodetic latitude.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

**Class**

CollectionBoundingRectangle

## **CollectionState**

This attribute describes the state of the collection, whether it is planned but not yet existent, partially complete due to continual additions from remotely sensed data/processing/reprocessing, or is considered a complete product/dataset.

Content Source: DP

Domain:

Completed - All currently planned collection, processing, and reprocessing are complete for this product/ dataset/ collection.

In Work - Data is currently either being collected, processed, or reprocessed for this product/ dataset/ collection.

Planned - Data has not yet been collected or processed for this product/ dataset/ collection, possible candidate for consideration in the collection.

Reference Document: 420-TP-015-001, February 1997

## **Class**

SingleTypeCollection

## **CollectionStorageMedium**

The distribution media at the collection level.

Content Source: DAAC

Domain:

35 mm Slides

Hardcopy Plots

Magnetic Disks

Magnetic Tapes

Microfiche Slides

Microfilm Reels

Optical Disks (CD ROMs)

Reference Document: 420-TP-015-001, February 1997

## **Class**

CollectionStorageMedium

## **CollectionType**

The type of collection e.g. multiple type or single type collection.

Content Source: DP

Domain:

MultipleTypeCollection  
SingleTypeCollection

## **Class**

ECSCollection

## **CollectionUse**

Additional comments for all types of associated collections, such as the importance of the input and its use.

Content Source: DP

Domain:

Free Text

Reference Document: 420-TP-015-001, February 1997

## **Class**

CollectionAssociation

## **CollectionVerticalSpatialDomainType**

This attribute describes the type of the area of vertical space covered by the locality.

Content Source: DP

Domain:

Altitude  
Depth

Reference Document: 420-TP-015-001, February 1997

## **Class**

CollectionVerticalSpatialDomain

## **CollectionWestBoundingCoordinate**

Western-most coordinate of the limit of coverage expressed in longitude.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

### **Class**

CollectionBoundingRectangle

## **ComponentID**

The unique identifier of SSAPComponent.

Content Source: DB(database)

### **Class**

SSAPComponentAPVersion

## **ComponentName**

Name of the Component.

Content Source: DP

### **Class**

SSAPComponent

## **ComponentType**

Name of the Component Type.

Content Source: DP

### **Class**

SSAPComponent

## **ContactID**

The unique identifier of the Contact.

Content Source: DSS

### **Class**

Contact

## **ContactInstructions**

Supplemental instructions on how or when to contact the individual or organization.

Content Source: DP

Domain:

Free Text

Reference Document: 420-TP-015-001, February 1997

### **Class**

Contact

## **ContactJobPosition**

The primary title of the individual, i.e. Team Leader, Principal Investigator.

Content Source: DP; DAAC

Domain:

Free Text

Reference Document: 420-TP-015-001, February 1997

### **Class**

PersonOrganizationXref

## **ContactType**

The type of contact.

Content Source: DP

Domain:

ContactPerson

ContactOrganization

### **Class**

Contact

## **Country**

The country of the address.

Content Source: DP

Domain:

use ISO 3166 Maintenance Agency (<ftp://ftp.ripe.net/iso3166-countrycodes>)

Reference Document: 420-TP-015-001, February 1997

### **Class**

ContactAddress

## **CSDTComments**

A free text field for the user to add comments clarifying the data structure.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

### **Class**

CSDTDescription

## **DAACName**

The name of the Distributed Active Archive Center which is responsible for the production plan.

Content Source: DAAC

Domain:

GSFC - Goddard Space Flight Center

LaRC - Langley Research Center

ORNL - Oak Ridge National Laboratory

EDC - EROS Data Center

NSIDC - National Snow and Ice Data Center

JPL - Jet Propulsion Laboratory

CIESIN - Consortium for International Earth Science Information Network

ASF - Alaska SAR Facility

Reference Document: 420-TP-015-001, February 1997

### **Class**

ProductionPlan

## **DAPID**

The unique identifier for the Delivered Algorithm Package.

Content Source: DS

### **Class**

DAP

## **DAPInsertDate**

The date the Delivered Algorithm Package was inserted into the system.

Content Source: DS

### **Class**

DAP

## **DAPPGEName**

The name of the PGE.

Content Source: DSS

### **Class**

PGEGroup

## **DAPPGEVersion**

The version of the PGE.

Content Source: DSS

### **Class**

PGEGroup

## **DAPSVersion**

The Software Version of the PGE.

Content Source: DSS

### **Class**

PGEGroup

## **DataCenter**

The data center supporting the information for which the guide is applicable.

Content Source: DAAC

Domain:

GSFC - Goddard Space Flight Center

LaRC - Langley Research Center

ORNL - Oak Ridge National Laboratory

EDC - EROS Data Center

NSIDC - National Snow and Ice Data Center

JPL - Jet Propulsion Laboratory

CIESIN - Consortium for International Earth Science Information Network  
ASF - Alaska SAR Facility

Reference Document: 420-TP-015-001, February 1997

**Class**

Guide

**DateofReferencePaperPublication**

Contains the date of formal/informal publication of the reference paper.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

**Class**

ReferencePaper

**DateType**

This attribute specifies the datatype of the date attributes that apply to collections and granules.

Content Source: DP

Domain:

Julian - (JD)- the internal of time in days and fraction of day since 4713 B.C. January 1, Greenwich noon, Julian proleptic calendar.

Gregorian - Standard calendar dates using B.C., A.D. year, and January 1 through December 31 month and day delineation.

Reference Document: 420-TP-015-001, February 1997

**Class**

ECSCollection

**DayNightFlag**

This attribute is used to identify if a granule was collected during the day, night (between sunset and sunrise) or both.

Content Source: PGE

Domain:

Day - between sunrise and sunset

Night - between sunset and sunrise

Both - Includes both 'Day' and 'Night'

NA - Not Applicable

Reference Document: 420-TP-015-001, February 1997

#### **Class**

ECSDataGranule

### **DeliveryPurpose**

This attribute describes the purpose of the delivery e.g., an initial release, modification, etc.

Content Source: DP

Domain:

Initial Delivery

Early Delivery

Engineering Modification

Operational

Enhancement

SW Patch

Reference Document: 420-TP-015-001, February 1997

#### **Class**

AlgorithmPackage

### **DenominatorofFlatteningRatio**

The ratio of the Earth's major axis to the difference between the major and the minor.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

#### **Class**

GeodeticModel

## **DepthDatumName**

The identification given to surface of reference from which depths are measured.

Content Source: DP

Domain:

Approximate lowest astronomical tide

Chart datum; datum for sounding reduction

Columbia River datum

Equatorial springs low water

Gulf Coast low water datum

High-water full and charge

High water

Higher high water

Highest astronomical tide

Indian spring low water

Land survey datum

Local Surface

Low-water full and charge

Low water

Low water datum

Lower low water

Lowest astronomical tide

Lowest low water

Lowest normal low water

Mean high water (MHW)

Mean high water neap

Mean high water springs

Mean higher high water

Mean higher low water

Mean low water (MLW)

Mean low water neap

Mean low water springs

Mean lower high water

Mean lower low water

Mean lower low water springs

Mean sea level (MSL)

Mean tide level

Neap tide

No correction

Spring tide

Tropic lower low water

**Class**

DepthSystemDefinition

**DepthDistanceUnits**

Units in which depths are recorded.

Content Source: DP

Domain:

fathoms  
feet  
meters

Reference Document: 420-TP-015-001, February 1997

**Class**

DepthSystemDefinition

**DepthEncodingMethod**

The means used to encode depths.

Content Source: DP

Domain:

Attribute Values  
Explicit depth coordinate included with horizontal coordinates  
Implicit coordinate

Reference Document: 420-TP-015-001, February 1997

**Class**

DepthSystemDefinition

**DepthResolution**

The minimum distance possible between two adjacent depth values, expressed in depth distance units of measure.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

**Class**

DepthSystemDefinition

**Description**

Description of the advertisement.

Content Source: IOS

**Class**

AdvertisementDescription

**DescriptionType**

Contains the type of algorithm description.

Content Source: DAAC

Domain:

System Description

Processing File Description

ATBD

Test Plan

Operations Manual

SW Development Standard

Programmers Guide

Detailed Design

Performance Test Results

**Class**

AlgorithmDescription

**DistanceResolution**

The minimum distance measurable between two points, expressed in Planar Distance Units of measure.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

**Class**

DistanceandBearingRepresentation

**DocumentCreated**

The date on which the document was created.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

**Class****Name**

Document

**DocumentFormat**

This attribute provides the format(s) of the document.

Content Source: DSS

Domain:

HTML

PDF

RTF

PostScript

ASCII

**Class**

DocumentDetails

**DocumentID**

The unique document identifier.

Content Source: DB(database)

**Class**

Document

## **DocumentPointer**

The logical reference to a specific document.

Content Source: DSS

### **Class**

Document

## **DocumentRole**

This class is used to cross reference Documents with Contacts and includes an attribute to define the contact role with respect to the document (e.g. Author, Publisher).

Content Source: DSS

Domain:

Author

Editor

Publisher

### **Class**

DocumentContactXref

## **DocumentSize**

This attribute provides the size of the document in bytes.

Content Source: DSS

### **Class**

DocumentDetails

## **DocumentTitle**

This attribute provides the title of the document.

Content Source: DSS

**Class**

Document

**DocumentType**

The type of document.

Content Source: DSS

Domain:

Algorithm Description

Guide

Processing Report

Production Plan

Reference Paper

**Class**

Document

**DocumentUpdated**

The date on which the document was last revised or updated.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

**Class**

Document

**DocumentVersion**

The version or revision level of the document.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

**Class**

Document

## **EastBoundingCoordinate**

The eastern-most coordinate of the limit of coverage expressed in longitude.

Content Source: PGE

### **Class**

GranuleBoundingRectangle

## **ECSDataGranuleID**

The unique identifier of ECSGranule.

Content Source: DSS

### **Class**

ECSDataGranule

## **ECSDataGranuleSize**

The size attribute will indicate the volume of data contained in the granule in MB.

Content Source: DSS

Reference Document: 420-TP-015-001, February 1997

### **Class**

ECSDataGranule

## **ECSDisciplineKeyword**

Keyword used to describe the general discipline area of the collection. A collection can conceivably cover several disciplines.

Content Source: DP

Domain:

Earth Science

Space Science

Socio-Economics

Reference Document: 420-TP-015-001, February 1997

**Class**

ECSKeyword

**ECSKeywordID**

The unique identifier of ECSKeyword.

Content Source: DB(database)

**Class**

ECSKeyword

**ECSPParameterKeyword**

Keyword used to describe specific characteristics of a collection at a higher level of detail than provided by ECSVariableKeyword.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

**Class**

ECSPParameterKeywordDetails

**ECSTermKeyword**

Keyword used to describe the science parameter area of the collection. A collection can conceivably cover many such parameters.

Content Source: DP

Domain:

Aerosols	Atmospheric Temperature	Coastal Processes
Air Quality	Atmospheric Water Vapor	Devonian
Altitude	Atmospheric Winds	Dew Point
Aquatic Habitat	Attitudes, Preferences, Behavior	Diagenesis
Atmospheric Chemistry	Bathymetry	Diatoms
Atmospheric Phenomena	Boundaries	Differential Flux
Atmospheric Pressure	Clouds	Differential Pressure

Diffusion	Estuaries	Gelbstoff
Dimethyl Sulfide	Estuarine Habitat	Geochemistry
Discharge/Flow	Estuarine Wetlands	Geodetics/Gravity
Diseases	Eutrophication	Geologic Time
Dispersion	Evaporation	Geomagnetic Forecasts
Dissolved Gases	Evaporites	Geomagnetic Indicies
Dissolved Solids	Evapotranspiration	Geomagnetic Induction
Diurnal Movements	Excretion	Geomagnetism
Divergence	Exotic Species	Geophysical Fields
Dome Temperature	Exotic Vegetation	Geopotential Height
Domesticated Animals	Extinction	Geothermal
Domesticated Plants	Extinction Coefficients	Geothermal Energy
Dominance	Faults	Geothermal Temperature
Dominant Species	Feeding Habitat	Glaciation
Doppler Speed	Ferns	Glaciers
Downwelling	Fetch	Grassland
Drainage	Filaments	Gravity
Droplet concentration/Size	Fire Occurance	Gravity Field
Droplet Size	Fish	Gravity Wave
Drought	Fixation	Ground Height
Dunes	Fjords	Ground Water
Dust/Ash	Flagellates	Groundwater Chemistry
Earthquake Dynamics	Flatworms	Groundwater Quality
Earthquake Occurences	Floods	Guyots
Earthquake Predictions	Flowereing Plants	Gyres
Echinoderms	Fluorescence	Hail
Ecological Dynamics	Fog	Halocarbons
Economic Resources	Folds	Halocline
Eddies	Food-web Dynamics	Heat Flux
Electric Field	Food Production	Heating Rate
Electricity	Foraminifers	Heavy Ion
Electron Flux	Forest Composition/ Structure	Heavy Metals
Emissions	Forest Habitat	Herbivory
Emissivity	Fossil Fuel Burning	Holcen
Endangered Species	Fracture Zones	Human Health
Energetic Particles	Freeze	Hurricanes
Energy Deposition	Freeze/Thaw	Hydration
Engineering/Sensor Quantities	Freezing Rain	Hydraulic Conductivity
Entrainment	Fresh Water Flux	Hydrocarbons
Environmental Effects	Fronts	Hydrochlorofluorocarbons
Eocene	Frost	Hydrofluorocarbons
Erosiaon/Sedimentation	Fungi	Hydrogenous Sediments
Erosion	Gamma Ray	Hydropattern
Eruption Dynamics	Gas Flaring	Hydroperiod

Hydrostatic Pressure	Invertebrates	Longshore Currents
Hydrothermal Vents	Ion Exchange	Longwave Radiation
Hydroxyl	Ions	Macroalgae
Ice Age	Irradiance	Macrofossils
Ice Compactness	Irrigation	Macrophyte
Ice Concentration	Island Arcs	Magma
Ice Core Air Bubble	Islands	Magnetic Anomalies
Ice Core Records	Isostatic Rebound	Magnetic Declination
Ice Deformation	Isotopes	Magnetic Field
Ice Depth/Thickness	Jellyfish	Magnetic Inclination
Ice Drift	Jurassic	Magnetic Intensity
Ice Edges	Kinetic Energy	Mammals
Ice Extent	Lacustrine Wetlands	Mangroves
Ice Floes	Lagoons	Marine
Ice Growth	Lake Ice	Marine Geophysics
Ice Motion	Lake Levels	Marine Gravity Field
Ice Pack	Lakes	Marine Magnetics
Ice Roughness	Land Classes	Marine Sediments
Ice Sheet Elevation	Land Cover	Marshes
Ice Sheets	Land Heat Capacity	Maximum/Minimum Temperature
Ice Temperature	Land Management	Mesoscale Convective Complex
Ice Types	Land Productivity	Mesozoic
Ice Velocity	Land Records	Metals
Icebergs	Land Resources	Metamorphic Rocks
Igneous Rocks	Land Subsidence	Methane
Importance Value	Land Surface Temperature	Metorites
Incoming Shortwave Radiation	Land Temperature	Microalgae
Indigenous Species	Land Tenure	Microbiota
Indigenous Vegetation	Land Use/Land Cover	Microfossils
Industrial Emissions	Landforms	Microphyte
Industrializaiton	Landslides	Microwave
Infiltration	Lava	Microwave Imagery
Infrared	Lead	Mid-Ocean Ridges
Infrared Flux	Leads	Migratory Rates/Routes
Infrared Imagery	Leaf Characteristics	Millipedes
Infrastructure	Letter Characteristics	Mine Drainage
Inlets	Lichens	Minerals
Inorganic Carbon	Life History	Miocene
Inorganic Matter	Light Attenuation	Mixing Height
Insects	Light Transmission	Molds
Instability	Lightning	Molluscs
Internal Waves	Liquid Water Equivalent	Momentum
Intertidal Zone	Local Subsidence Trends	Monsoons
Inversion Height	Loess	Montane Habitat

Mosses	Organic Carbon	Pipelines
Mushrooms	Organic Matter	Planetary Boundary Layer
Mutation	Organic Particles	Plankton
Mutualism	Oscillations	Plant Characteristics
Natural Gas	Outgoing Longwave Radiation	Pleistocene
Neotectonics	Overturning	Pliocene
Net Radiation	Oxidation/Reduction	Polar Motion
Nitrate	Oxygen	Political Divisions
Nitrate Particles	Oxygen Demand	Pollen
Nitric Acid	Oxygen Isotopes	Polynyas
Nitrite	Ozone	Population Dynamics
Nitrogen	Paleocene	Post-Breeding
Nitrogen Compounds	Paleomagnetic Data	Potential Density
Nitrogen Dioxide	Paleomagnetism	Potential Temperature
Nitrogen Oxides	Paleosols	Precambrian
Nitrous Oxide	Paleovegetation	Precipitable Water
Non-Metallic Minerals	Paleozoic	Precipitation
Non-Methane Hydrocarbons	Palustrine Wetlands	Precipitation Amount
Nuclear Radiation	Parasitism	Precipitation Anomalies
Nucleation	Particle Composition	Precipitation Rate
Nutrient Cycling	Particle Density	Predation
Nutrients	Particle Distribution Functions	Pressure Anomalies
Ocean Acoustics	Particle Flux	Pressure Tendency
Ocean Chemistry	Particle Speed	Pressure Thickness
Ocean Circulation	Particle Temperature	Primary Production
Ocean Color	Particulate Matter	Protist
Ocean Crust Deformation	Particulates	Proton Flux
Ocean Currents	Particule Flux	Public Health
Ocean Heat Budget	Peatlands	Pycnocline
Ocean Mixed Layer	Pelagic Habitat	Pyroclastics
Ocean Optics	Percolation	Quaternary
Ocean Plateaus/Ridges	Permafrost	Radar
Ocean Pressure	Permian	Radar Backscatter
Ocean Temperature	Petroleum	Radar Cross-Section
Ocean Tracers	pH	Radar Imagery
Ocean Water Budget	Phase and Amplitude	Radar Reflectivity
Ocean Waves	Phosphate	Radiation Budget
Ocean Winds	Phosphorus	Radiative Flux
Ocean/Lake Records	Photic Zone	Radiative Forcing
Oil Spill	Photosynthesis	Radio Wave
Oligocene	Photosynthesis Active Radiation	Radioactive Elements
Optical Depth	Physiological Parameters	Radiocarbon
Optical Thickness	Phytoplankton	Radioisotopes
Ordovician	Pigments	Radiolarians

Rain	Sediment Transport	Soil Depth
Range Changes	Sedimentary Rocks	Soil Fertility
Reef Habitat	Sedimentation	Soil Heat Budget
Reference Fields	Sediments	Soil Horizons/Profile
Reference Systems	Segmented worms	Soil Impedance
Reflectance	Seiches	Soil Mechanics
Reforestation	Seismic Body Waves	Soil Moisture
Relief	Seismic Profile	Soil Plasticity
Reptiles	Seismic Surface Waves	Soil Porosity
Respiration	Seismology	Soil Productivity
Restoration	Selection	Soil Respiration
Rift Valleys	Sensor Counts	Soil Structure
Riparian Wetlands	Sewage	Soil Temperature
River Ice	Shoals	Soil Texture
Rivers/Stream Habitat	Shoreline Displacement	Soil Types
Rivers/Streams	Shortwave Radiation	Soils
Rocks/Minerals	Shrubland/Scrub	Solar Active Regions
Rocky Coasts	Sigma Naught	Solar Activity
Rotational Variations	Significant Wave Height	Solar Events
Roundworms	Silicate	Solar Flares
Runoff Stage Height	Siliceous Sediments	Solar Imagery
Salar Energetic Particles	Silurian	Solar Oscillations
Saline Lakes	Sink Temperature	Solar Prominences
Salinity	Sinkholes	Solar Radiation
Salinity/Density	Skin Temperature	Sponges
Salt Transport	Sleet	Sporozoans
Saltwater Intrusion	Slime molds	Springs
Satellite Orbits	Smog	Stability
Savanna	Snow	Stable Isotopes
Scattering	Snow Cover	Static Pressure
Scavenging	Snow Depth	Static Temperature
Sea Ice	Snow Energy Balance	Station Height
Sea Level Pressure	Snow Facies	Steamfunctions
Sea Level Rise	Snow Melt	Storm Surge
Sea State	Snow Water Equivalent	Storms
Sea Surface Height	Snow/Ice	Stratigraphic Sequence
Seafloor Spreading	Snow/Ice Temperature	Stratopause
Seafloor Topography	Social Behavior	Stream Chemistry
Seamounts	Soil Absorption	Stress
Secchi Depth	Soil Bulk Density	Subduction
Secondary Production	Soil Chemistry	Sublimation
Sediment Chemistry	Soil Color	Submarine Canyons
Sediment Composition	Soil Companction	Succession
Sediment Grain Size	Soil Consistence	Sulfate Particles

Sulfur Dioxide	Toxic Chemicals	Visible Flux
Sulfur Oxides	Toxicity	Visible Imagery
Sunshine	Trace Elements	Vital Statistics
Sunspots	Trace Gases	Volatile Organic Compounds
Surf Beat	Trace Metals	Volcanic Ash/Dust
Surface Air Temperature	Transmittance	Volcanic Deposits
Surface Pressure	Transportation	Volcanic Gases
Surface Roughness	Tree Rings	Volcanoes
Surface Water	Trenches	Vorticity
Surface Winds	Triassic	Water Channels
Surveys	Tropic Dynamics	Water Depth
Survival	Tropopause	Water Management
Suspended Solids	Tropospheric Ozone	Water Masses
Swamps	Tsunamis	Water Quality
Swells	Turbidity	Water Table
Symbiosis	Turbulence	Water Temperature
Synoptic Maps	Typhoons	Water Vapor
Tectonics	Ultraviolet	Water Yield
Temperature Anomalies	Ultraviolet Flux	Wave Frequency
Terrain Elevation	Ultraviolet Radiation	Wave Height
Terrestrial Habitat	Ultraviolet Sensor Temperature	Wave Length
Terrigenous Sediments	Unundation	Wave Period
Tertiary	Upper Level Winds	Wave Spectra
Thermal Conductivity	Upwelling	Wave Speed/Direction
Thermal Inertia	Urban Land	Wave Types
Thermal Infrared	Urbanization	Weathering
Thermocline	Varve Deposits	Wetlands
Thermohaline Circulation	Vegetation	Whiteout
Tidal Components	Vegetation Cover	Wind-Driven Circulation
Tidal Currents	Vegetation Species	Wind Chill
Tidal Height	Velocity Fields	Wind Shear
Tidal Range	Vertebrates	Wind Stress
Tides	Vertical Wind Motion	X-Ray
Topography	Virtual Temperature	Yeast
Tornados	Visibility	Zoology
Total Surface Water	Visible	Zooplankton

Reference Document: 420-TP-015-001, February 1997

**Class**

ECSKeyword

**ECSTopicKeyword**

Keyword used to describe the general topic area of the collection. A collection can conceivably cover several topics.

Content Source: DP

Domain:

Atmosphere  
Biosphere  
Cryosphere  
Human Dimensions  
Hydrosphere  
Land Surface  
Oceans  
Paleoclimate  
Radiance or Imagery  
Solar Physics  
Solid Earth

Reference Document: 420-TP-015-001, February 1997

**Class**

ECSKeyword

**ECSVariableKeyword**

Keyword used to describe the specific science content of the collection. Must be selected from ECSVariableKeyword list.

Content Source: DP

Domain:

Ablation	Acoustic Attenuation	Adaptation
Absorption	Acoustic Frequency	Administrative Divisions
Abyssal Hills/Plains	Acoustic Reflectivity	Advection
Acid Deposition	Acoustic Scattering	Aerosol Backscatter
Acid Rain	Acoustic Tomography	Aerosol Extinction
	Acoustic Velocity	Age Determinations

Agricultural Land	Biomass Burning	Cloud Types
Agriculture	Biomass Canopy Characteristics	Cloud Vertical Distribution
Air Temperature	Biomedical Chemicals	Coal
Albedo	Bioturbation	Coastal Elevation
Algae	Birds	Coastal Habitat
Alkalinity	Blue-Green Algae	Communications
Alpha Particles	Boundary Layer Temperature	Community Structure
Alpine/Tundra	Bowen Ratio	Competition
Ambient Noise	Brightness Temperature	Condensation
Ammonia	Brine Production	Conduction
Amoebae	Brine Production	Conductivity
Amphibians	Buildings	Conifers
Anatomical Parameters	Buoy Position	Consumer Behavior
Anemones	Cambrian	Consumption
Anisotropy	Carbon	Contaminants
Antenna Temperature	Carbon Dioxide	Continental Drift
Anticyclones/Cyclones	Carbon Monoxide	Continental Rises/Slopes
Aphotic Zone	Carbonaceous Aerosols	Continental Shelves
Aquaculture	Carbonate	Continental Tectonics
Aquifer Recharge	Carbonate Sediments	Contours
Aquifers	Carboniferous	Control Surveys
Arachnids	Carbonyl Sulfide	Convection
Arthropods	Carcinogens	Convergence/Divergence
Atmospheric Emitted Radiation	Cave Deposits	Coral Deposits
Atmospheric Heating	Caves	Coral Reefs
Atmospheric Pressure	Cenozoic	Corals
Avalanche	Centipedes	Core Processes
Backscatter	Chemical Weathering	Corona Holes
Bacteria	Chemosynthesis	Coronal Properties
Baraclinic Mode	Chlorine Monoxide	Cretaceous
Barometric Altitude	Chlorofluorocarbons	Crops
Barotropic Mode	Chlorophyll	Crown
Barrier Islands	Ciliates	Crustaceans
Beaches	Cloud Amount	Crustal Motion
Bedrock Lithology	Cloud Ceiling	Crystals
Benthic Habitat	Cloud Condensation Nuclei	Cultural Features
Benthic Heat Flow	Cloud Forcing	Cyclones
Benthic Index	Cloud Height	Deciduous Vegetation
Bidirectional Reflectance	Cloud Ice	Decomposition
Bioaccumulation	Cloud Liquid Water	Deforestation
Bioavailability	Cloud Optical Thickness	Degradation
Biogeochemical Cycles	Cloud Precipitable Water	Degree Days
Bioluminescence	Cloud Top Pressure	Deiced Temperature
Biomass	Cloud Top Temperature	Deltas

Dendrification Rate	Endangered Species	Freezing Rain
Density	Energetic Particles	Fresh Water Flux
Depth Hoar	Energy Deposition	Fronts
Desalinizaiton	Entrainment	Frost
Desert	Eocene	Gamma Ray
Desertification	Erosion	Gas Flaring
Devonian	Eruption Dynamics	Gelbstoff
Dew Point	Estuaries	Geomagnetic Forecasts
Diagenesis	Estuarine Habitat	Geomagnetic Indicies
Diatoms	Estuarine Wetlands	Geomagnetic Induction
Differential Flux	Eutrophication	Geopotential Height
Differential Pressure	Evaporation	Geothermal Energy
Diffusion	Evaporites	Geothermal Temperature
Dimethyl Sulfide	Evapotranspiration	Glaciation
Discharge/Flow	Excretion	Glaciers
Diseases	Exotic Species	Grassland
Dispersion	Exotic Vegetation	Gravity
Dissolved Gases	Extinction	Gravity Field
Dissolved Solids	Extinction Coefficients	Gravity Wave
Diurnal Movements	Faults	Ground Height
Divergence	Feeding Habitat	Groundwater Chemistry
Dome Temperature	Ferns	Groundwater Quality
Domesticated Animals	Fetch	Guyots
Domesticated Plants	Filaments	Gyres
Dominance	Fire Occurance	Hail
Dominant Species	Fish	Halocarbons
Doppler Speed	Fixation	Halocline
Downwelling	Fjords	Heat Flux
Drainage	Flagellates	Heating Rate
Droplet concentration/Size	Flatworms	Heavy Ion
Droplet Size	Floods	Heavy Metals
Drought	Flowereing Plants	Herbivory
Dunes	Fluorescence	Holcen
Dust/Ash	Fog	Hurricanes
Earthquake Dynamics	Folds	Hydration
Earthquake Occurences	Food-web Dynamics	Hydraulic Conductivity
Earthquake Predictions	Food Production	Hydrocarbons
Echinoderms	Foraminifers	Hydrochlorofluorocarbons
Eddies	Forest Composition/ Structure	Hydrofluorocarbons
Electric Field	Forest Habitat	Hydrogenous Sediments
Electricity	Fossil Fuel Burning	Hydropattern
Electron Flux	Fracture Zones	Hydroperiod
Emissions	Freeze	Hydrostatic Pressure
Emissivity	Freeze/Thaw	Hydrothermal Vents

Hydroxyl	Island Arcs	Magnetic Field
Ice Age	Islands	Magnetic Inclination
Ice Compactness	Isostatic Rebound	Magnetic Intensity
Ice Concentration	Isotopes	Mammals
Ice Core Air Bubble	Jellyfish	Mangroves
Ice Deformation	Jurassic	Marine
Ice Depth/Thickness	Kinetic Energy	Marine Gravity Field
Ice Drift	Lacustrine Wetlands	Marine Magnetics
Ice Edges	Lagoons	Marshes
Ice Extent	Lake Ice	Maximum/Minimum Temperature
Ice Floes	Lake Levels	Mesoscale Convective Complex
Ice Growth	Lakes	Mesozoic
Ice Motion	Land Classes	Metals
Ice Pack	Land Cover	Metamorphic Rocks
Ice Roughness	Land Heat Capacity	Methane
Ice Sheet Elevation	Land Management	Metorites
Ice Sheets	Land Productivity	Microalgae
Ice Temperature	Land Resources	Microfossils
Ice Types	Land Subsidence	Microphyte
Ice Velocity	Land Surface Temperature	Microwave Imagery
Icebergs	Land Tenure	Mid-Ocean Ridges
Igneous Rocks	Landforms	Migratory Rates/Routes
Importance Value	Landslides	Millipedes
Incoming Shortwave Radiation	Lava	Mine Drainage
Indigenous Species	Lead	Minerals
Indigenous Vegetation	Leads	Miocene
Industrial Emissions	Leaf Characteristics	Mixing Height
Industrializaiton	Letter Characteristics	Molds
Infiltration	Lichens	Molluscs
Infrared Flux	Life History	Momentum
Infrared Imagery	Light Attenuation	Monsoons
Inlets	Light Transmission	Montane Habitat
Inorganic Carbon	Lightning	Mosses
Inorganic Matter	Liquid Water Equivalent	Mushrooms
Insects	Local Subsidence Trends	Mutation
Instability	Loess	Mutualism
Internal Waves	Longshore Currents	Natural Gas
Intertidal Zone	Longwave Radiation	Neotectonics
Inversion Height	Macroalgae	Net Radiation
Invertebrates	Macrofossils	Nitrate
Ion Exchange	Macrophyte	Nitrate Particles
Ions	Magma	Nitric Acid
Irradiance	Magnetic Anomalies	Nitrite
Irrigation	Magnetic Declination	Nitrogen

Nitrogen Compounds	Particle Flux	Pressure Thickness
Nitrogen Dioxide	Particle Speed	Primary Production
Nitrogen Oxides	Particle Temperature	Protist
Nitrous Oxide	Particulate Matter	Proton Flux
Non-Metallic Minerals	Particulates	Public Health
Non-Methane Hydrocarbons	Particule Flux	Pycnocline
Nuclear Radiation	Peatlands	Pyroclastics
Nucleation	Pelagic Habitat	Quaternary
Nutrient Cycling	Percolation	Radar Backscatter
Nutrients	Permafrost	Radar Cross-Section
Ocean Color	Permian	Radar Imagery
Ocean Crust Deformation	Petroleum	Radar Reflectivity
Ocean Currents	pH	Radiative Flux
Ocean Mixed Layer	Phase and Amplitude	Radiative Forcing
Ocean Plateaus/Ridges	Phosphate	Radio Wave
Ocean Pressure	Phosphorus	Radioactive Elements
Ocean Tracers	Photic Zone	Radiocarbon
Oil Spill	Photosynthesis	Radioisotopes
Oligocene	Photosynthesis Active Radiation	Radiolarians
Optical Depth	Physiological Parameters	Rain
Optical Thickness	Phytoplankton	Range Changes
Ordovician	Pigments	Reef Habitat
Organic Carbon	Pipelines	Reference Fields
Organic Matter	Planetary Boundary Layer	Reference Systems
Organic Particles	Plankton	Reflectance
Oscillations	Plant Characteristics	Reforestation
Outgoing Longwave Radiation	Pleistoncene	Relief
Overturning	Pliocene	Reptiles
Oxidation/Reduction	Polar Motion	Respiration
Oxygen	Political Divisions	Restoration
Oxygen Demand	Pollen	Rift Valleys
Oxygen Isotopes	Polynyas	Riparian Wetlands
Ozone	Population Dynamics	River Ice
Paleocene	Post-Breeding	Rivers/Stream Habitat
Paleomagnetic Data	Potential Density	Rivers/Streams
Paleomagnetism	Potential Temperature	Rocky Coasts
Paleosols	Precambrian	Rotational Variations
Paleovegetation	Precipitable Water	Roundworms
Paleozoic	Precipitation Amount	Runoff Stage Height
Palustrine Wetlands	Precipitation Anomalies	Saline Lakes
Parasitism	Precipitation Rate	Salinity
Particle Composition	Predation	Salt Transport
Particle Density	Pressure Anaomalias	Saltwater Intrusion
Particle Distribution Functions	Pressure Tendency	Satellite Orbits

Savanna	Snow Depth	Storm Surge
Scattering	Snow Energy Balance	Storms
Scavenging	Snow Facies	Stratigraphic Sequence
Sea Level Pressure	Snow Melt	Stratopause
Sea Level Rise	Snow Water Equivalent	Stream Chemistry
Sea State	Snow/Ice Temperature	Stress
Sea Surface Height	Social Behavior	Subduction
Seafloor Spreading	Soil Absorption	Sublimation
Seafloor Topography	Soil Bulk Density	Submarine Canyons
Seamounts	Soil Chemistry	Succession
Secchi Depth	Soil Color	Sulfate Particles
Secondary Production	Soil Companction	Sulfur Dioxide
Sediment Chemistry	Soil Consistence	Sulfur Oxides
Sediment Composition	Soil Depth	Sunshine
Sediment Grain Size	Soil Fertility	Sunspots
Sediment Transport	Soil Heat Budget	Surf Beat
Sedimentary Rocks	Soil Horizons/Profile	Surface Air Temperature
Sedimentation	Soil Impedence	Surface Pressure
Sediments	Soil Mechanics	Surface Roughness
Segmented worms	Soil Moisture	Surface Winds
Seiches	Soil Plasticity	Surveys
Seismic Body Waves	Soil Porosity	Survival
Seismic Profile	Soil Productivity	Suspended Solids
Seismic Surface Waves	Soil Respiration	Swamps
Selection	Soil Structure	Swells
Sensor Counts	Soil Temperature	Symbiosis
Sewage	Soil Texture	Synoptic Maps
Shoals	Soil Types	Temperature Anomalies
Shoreline Displacement	Solar Active Regions	Terrain Elevation
Shortwave Radiation	Solar Events	Terrigenous Sediments
Shrubland/Scrub	Solar Flares	Tertiary
Sigma Naught	Solar Imagery	Thermal Conductivity
Significant Wave Height	Solar Oscilations	Thermal Inertia
Silicate	Solar Prominences	Thermal Infrared
Siliceous Sediments	Solar Radiation	Thermocline
Silurian	Sponges	Thermohaline Circulation
Sink Temperature	Sporozoans	Tidal Components
Sinkholes	Springs	Tidal Currents
Skin Temperature	Stability	Tidal Height
Sleet	Stable Isotopes	Tidal Range
Slime molds	Static Pressure	Tornados
Smog	Static Temperature	Total Surface Water
Snow	Station Height	Toxic Chemicals
Snow Cover	Steamfunctions	Toxicity

Trace Elements	Urbanization	Water Temperature
Trace Gases	Varve Deposits	Water Vapor
Trace Metals	Vegetation Cover	Water Yield
Transmittance	Vegetation Species	Wave Frequency
Transportation	Velocity Fields	Wave Height
Tree Rings	Vertebrates	Wave Length
Trenches	Vertical Wind Motion	Wave Period
Triassic	Virtual Temperature	Wave Spectra
Tropic Dynamics	Visibility	Wave Speed/Direction
Tropopause	Visible Flux	Wave Types
Tropospheric Ozone	Visible Imagery	Weathering
Tsunamis	Vital Statistics	Wetlands
Turbidity	Volatile Organic Compounds	Whiteout
Turbulence	Volcanic Ash/Dust	Wind-Driven Circulation
Typhoons	Volcanic Deposits	Wind Chill
Ultraviolet Flux	Volcanic Gases	Wind Shear
Ultraviolet Radiation	Vorticity	Wind Stress
Ultraviolet Sensor Temperature	Water Channels	X-Ray
Unundation	Water Depth	Yeast
Upper Level Winds	Water Management	Zooplankton
Upwelling	Water Masses	
Urban Land	Water Table	

#### **Class**

ECSVariable

### **ElectronicMailAddress**

The address of the electronic mailbox of the organization or individual. The address, following NASA Global Change Master Directory format, should be of the form 'network name>network address'. Examples of network names are NSN, SPAN, telemail, ARPANET, and Internet. Examples of network addresses are NSSDCA::NG, MIKEMARTIN/NASA, MMARTIN@JPL.MILVAX, or mikem@eos.hitc.com.

Content Source: DP

Domain:

Free Text

Reference Document: 420-TP-015-001, February 1997

#### **Class**

Email

## **ElectronicMailID**

The unique identifier of a contact's email address.

Content Source: DSS

### **Class**

Email

## **EllipsoidName**

Identification given to established representation of the Earth's shape.

Content Source: DP

Domain:

Airy 1830

Australian National 1965

Bessel 1841

Clarke 1866

Clarke 1880

Clarke 1880 Modified

Everest 1830

Everest Modified

Geodetic Reference System 1967

Geodetic Reference System 1980

Helmer

Hough

IAU 1976

IERS 1989

International 1909

International 1967

Krassovsky

MERIT 1983

Mercury 1960

Modified Mercury 1968

South American 1969

World Geodetic System of 1960

World Geodetic System of 1966

World Geodetic System of 1972

World Geodetic System of 1984

Reference Document: 420-TP-015-001, February 1997

**Class**

GeodeticModel

**EndingDateTime**

The Ending Date Time for a collection.

Content Source: DP

**Class**

TemporalKeywordClass

**EndsatPresentFlag**

This attribute will denote that a data collection which covers, temporally, a discontinuous range, currently ends at the present date. This way, the granules which comprise the data collection that are continuously being added to inventory need not update the data collection metadata for each one. Note that MODIS granules may be added several thousand times a day, making the update of the data collection metadata impractical.

Content Source: DSS

Domain:

Y = Yes, does end at present time.

N = No, does not end at present time.

Reference Document: 420-TP-015-001, February 1997

**Class**

ECSCollection

**EquatorCrossingDate**

This attribute represents the date of the descending equator crossing.

Content Source: PGE

Reference Document: 420-TP-015-001, February 1997

**Class**

OrbitCalculatedSpatialDomain

**EquatorCrossingLongitude**

This attribute represents the terrestrial longitude of the descending equator crossing.

Content Source: PGE

Reference Document: 420-TP-015-001, February 1997

**Class**

OrbitCalculatedSpatialDomain

**EquatorCrossingTime**

This attribute represents the time of the descending equator crossing.

Content Source: PGE

Reference Document: 420-TP-015-001, February 1997

**Class**

OrbitCalculatedSpatialDomain

**ExclusionGRingPointLatitude**

The geodetic latitude of a point of the G-ring.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

**Class**

CollectionExclusionGRingPoint

## **ExclusionGRingPointLatitude**

The geodetic latitude of a point of the Exclusion G-ring.

Content Source: PGE(granule)

Reference Document: 420-TP-015-001, February 1997

### **Class**

GranuleExclusionGRingPoint

## **ExclusionGRingPointLongitude**

The geodetic longitude of a point of the Exclusion G-Ring.

Content Source: PGE(granule)

Reference Document: 420-TP-015-001, February 1997

### **Class**

GranuleExclusionGRingPoint

## **ExclusionGRingPointLongitude**

The longitude of a point of the G-Ring.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

### **Class**

CollectionExclusionGRingPoint

## **ExclusionGRingPointSequenceNo**

Value denotes the numerical sequence position of a G-Ring point.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

**Class**

CollectionExclusionGRingPoint

**ExclusionGRingPointSequenceNo**

Value denotes the numerical sequence position of an Exclusion G-Ring point.

Content Source: PGE(granule)

Reference Document: 420-TP-015-001, February 1997

**Class**

GranuleExclusionGRingPoint

**ExpirationDate**

Date Advertisement expired.

Content Source: IOS

**Class**

AdvertisementMaster

**FirstName**

First name of the individual which the contact role (producer, archiver, distributor, or data originator) applies. People are points of contact, rather than organizations, in cases where the association of the person to the data set is more significant than the association of the organization to the data set. They may also be included if both a single person and organization are provided as points of contact.

Content Source: DP

Domain:

Free Text

Reference Document: 420-TP-015-001, February 1997

**Class**

ContactPerson

## **FtpURL**

Universal Resource Locator that contains a reference to the location of an installable package.

Content Source: IOS

### **Class**

InstallableServiceAdvertisement

## **GazAddress**

The address of the contributor.

Content Source: IOS

### **Class**

GazContributor

## **GazAuthor**

Author

Content Source: IOS

### **Class**

GazSource

## **GazBeginningDate**

The beginning date of the use of the name.

Content Source: IOS

### **Class**

GazLocation

GazAuthoritativeGeographicName

GazVariantGeographicName

## **GazBeginningDate**

The beginning date of the use of the name.

Content Source: IOS

### **Class**

GazGeographicFeature

## **GazChild**

Child feature type ID.

Content Source: IOS

### **Class**

GazClassXref

## **GazCity**

City

Content Source: IOS

### **Class**

GazContributor

## **GazContributorId**

ID of the contributor.

Content Source: IOS

### **Class**

GazContributor

## **GazCountry**

Country

Content Source: IOS

### **Class**

GazContributor

## **GazDescription**

Description

Content Source: IOS

### **Class**

GazTextualDescription

## **GazEastBoundingCoordinate**

East Bounding Coordinate of the Gazetteer.

Content Source: IOS

### **Class**

GazBoundingRectangleLocation

## **GazEdition**

Edition

Content Source: IOS

### **Class**

GazSource

## **GazEndingDate**

The ending date of the use of the name or feature.

Content Source: IOS

### **Class**

GazGeographicFeature

## **GazEntryDate**

The date the textual description was entered.

Content Source: IOS

### **Class**

GazGeographicFeature

GazLocation

GazVariantGeographicName

## **GazFeatureID**

The identifier for a feature.

Content Source: IOS

### **Class**

GazGeographicFeature

## **GazFeatureName**

The authoritative name of a feature.

Content Source: IOS

### **Class**

GazAuthoritativeGeographicName

GazVariantGeographicName

## **GazFeatureName**

The authoritative name of a feature.

Content Source: IOS

### **Class**

GazGeographicFeature

## **GazFeatureType**

Feature type

Content Source: IOS

### **Class**

GazFeatureType

## **GazFeatureTypeId**

The feature type ID.

Content Source: IOS

### **Class**

GazFeatureType

## **GazLatitude**

Latitude

Content Source: IOS

### **Class**

GazPoint

## **GazLatitude**

Latitude

Content Source: IOS

### **Class**

GazLinearPoint

## **GazLatitude**

Latitude

Content Source: IOS

### **Class**

GazPolygonPoint

## **GazLocationId**

Identifier for a location (shape).

Content Source: IOS

### **Class**

GazLocation

## **GazLocationType**

A location could be one of four shapes.

Content Source: IOS

### **Class**

GazLocation

## **GazLongitude**

Longitude

Content Source: IOS

### **Class**

GazLinearPoint

## **GazLongitude**

Longitude

Content Source: IOS

### **Class**

GazPolygonPoint

## **GazLongitude**

Longitude

Content Source: IOS

### **Class**

GazPoint

## **GazNameAuthority**

The organization or person who gives that name.

Content Source: IOS

### **Class**

GazAuthoritativeGeographicName

GazVariantGeographicName

## **GazNameAuthority**

The organization or person who gives that name.

Content Source: IOS

### **Class**

GazGeographicFeature

## **GazNamePerson**

The name of the person who gives that name.

Content Source: IOS

### **Class**

GazContributor

## **GazNorthBoundingCoordinate**

North Longitude

Content Source: IOS

### **Class**

GazBoundingRectangleLocation

## **GazOrganization**

The name of the organization.

Content Source: IOS

### **Class**

GazContributor

## **GazPages**

The number of pages.

Content Source: IOS

### **Class**

GazSource

## **GazParent**

A unique identifier of a Gazetteer Parent Feature.

Content Source: IOS

### **Class**

GazClassXref

## **GazPostalCode**

The postal code.

Content Source: IOS

### **Class**

GazContributor

## **GazPublicationDate**

The date of publication.

Content Source: IOS

### **Class**

GazSource

## **GazPublisher**

Publisher

Content Source: IOS

### **Class**

GazSource

## **GazSequenceNo**

The sequence number is used to connect points for a line or polygon. Domain is 1,2,3,... 1 is the first point of a line.

Content Source: IOS

### **Class**

GazLinearPoint

GazPolygonPoint

## **GazSeriesIssue**

The issue of the series.

Content Source: IOS

### **Class**

GazSource

## **GazSeriesName**

The name of the series.

Content Source: IOS

### **Class**

GazSource

**GazSourceID**

ID of the source.

Content Source: IOS

**Class**

GazSource

**GazSouthBoundingCoordinate**

South Longitude

Content Source: IOS

**Class**

GazBoundingRectangleLocation

**GazStateorProvince**

State or Province

Content Source: IOS

**Class**

GazContributor

**GazStatus**

Status

Content Source: IOS

**Class**

GazGeographicFeature

## **GazStatus**

Status

Content Source: IOS

### **Class**

GazLocation

GazAuthoritativeGeographicName

GazVariantGeographicName

## **GazTitle**

Title

Content Source: IOS

### **Class**

GazSource

## **GazWestBoundingCoordinate**

West Latitude

Content Source: IOS

### **Class**

GazBoundingRectangleLocation

## **GeodeticModelID**

The unique identifier of a Geodetic Model.

Content Source: DSS

### **Class**

GeodeticModel

## **GeographicalRegionName**

Contains a name for the geographical region the Regional Area Definition Guide applies to. Example values could be: Nile Delta, Sahel Zone, Mississippi Valley, Sudanian Zone, Amazon Basin, Grand Canyon...

Content Source: DP

Domain:

Free Text

Reference Document: 420-TP-015-001, February 1997

### **Class**

RegionalAreaDefinitionGuide

## **GeographicCoordinateUnits**

Units of measure used for the geodetic latitude and longitude resolution values. (e.g. if resolution is 1 degree then the value is 'decimal degrees')

Content Source: DP

Domain:

Decimal Degrees

Decimal Minutes

Decimals Seconds

Degrees and Decimal Minutes

Degrees, minutes, and decimal seconds

Radians

Grads

Reference Document: 420-TP-015-001, February 1997

### **Class**

GeographicCoordinateSystem

## **GIPparameterList**

Describes the parameters that should be passed to a service when the service is executed. The content of the list is dependent upon the type of service (e.g. acquire, browse, subset, etc.).

Content Source: IOS

**Class**

Signature

**GPolygonID**

The unique identifier for the G Polygon.

Content Source: PGE

**Class**

CollectionGPolygon

GranuleGPolygon

**GranulePointer**

A logical pointer to a science data granule.

Content Source: DSS

Reference Document: 420-TP-015-001, February 1997

**Class**

ECSDataGranule

**GranuleSpatialDomainType**

The domain type which characterizes the spatial extent of a granule.

Content Source: PGE

Domain:

Horizontal & Vertical

Horizontal

Vertical

Reference Document: 420-TP-015-001, February 1997

**Class**

ECSDataGranule

## **GranuleStorageMedium**

The distribution media for each granule.

Content Source: DAAC

Domain:

35 mm Slides  
Hardcopy Plots  
Magnetic Disks  
Magnetic Tapes  
Microfiche Slides  
Microfilm Reels  
Optical Disks (CD ROMs)

Reference Document: 420-TP-015-001, February 1997

**Class**

GranuleStorageMedium

## **GranuleSummaryDescription**

Textual description of the summary granule.

Content Source: DP

**Class**

GranuleSummaryProduct

## **GranuleSummaryPointer**

Data model specific logical reference to the summary product.

Content Source: DSS

**Class**

GranuleSummaryProduct

## **GranuleSummarySize**

Size of granule summary product in MB.

### **Class**

GranuleSummaryProduct

## **GranuleSummaryType**

The type of granule summary product.

Content Source: PGE

Domain:

Browse

Summary

### **Class**

GranuleSummaryProduct

## **GranuleUserCommentDocumentPointer**

The logical reference to the UserCommentDocument.

Content Source: PGE

### **Class**

GranuleUserCommentDocument

## **GridCoordinateSystemName**

Name of the Grid Coordinate System. A plane-rectangular coordinate system usually based on, and mathematically adjusted to a map projection so that geographic positions can be readily transformed to and from plane coordinates. The zone identifier can be allocated per granule; hence the class 'ZoneIdentifier'.

Content Source: DP

Domain:

Universal Transverse Mercator (UTM) - Requires UTM zone number, 1-60 for Northern Hemisphere, -60 to -1 for Southern Hemisphere

Other Grid System - Requires description in lieu of zone identifier which includes name, parameters and values, and citation of the specification for the algorithms that describe the mathematical relationship between the Earth and the coordinates of the grid system.

Reference Document: 420-TP-015-001, February 1997

**Class**

GridCoordinateSystem

**GuideName**

The name of the guide document.

Content Source: DAAC

Domain:

AnalysisGuide  
ArchiveCenterGuide  
CampaignGuide  
ECSCollectionGuide  
InstrumentGuide  
PlatformGuide  
ProcessingCenterGuide  
RegionalAreaDefinitionGuide  
SensorGuide

Reference Document: 420-TP-015-001, February 1997

**Class**

Guide

**GuideType**

The type of referenced guide.

Content Source: DAAC

Domain:

Analysis Source  
Campaign  
Regional Area Definition  
Platform

Sensor  
Instrument  
Processing Center  
Archive Center  
ECSCollection

**Class**

Guide

## **HorizontalCoordinateSystemType**

The type of horizontal coordinate system.

**Class**

HorizontalCoordinateSystem

## **HorizontalDatumName**

The identification given to the reference system used for defining the coordinates of points.

Content Source: DP

Domain:

North American Datum of 1927 (NAD27)  
North American Datum of 1983 (NAD83)

Reference Document: 420-TP-015-001, February 1997

**Class**

GeodeticModel

## **HorizontalSpatialDomainType**

The type of horizontal domain.

Domain:

GRing  
Point  
Circle  
BoundingRectangle

**Class**

GranuleHorizontalSpatialDomain

**HoursofService**

Time period when the contact is available.

Content Source: DAAC

Reference Document: 420-TP-015-001, February 1997

**Class**

Contact

**Implementation**

The name of the implemented form of the CSDT (standard formats, industry standards etc.), including lowest level object description.

Content Source: DP

Domain:

HDF-EOS - HDF-EOS Datatypes for implementation: HDF Attribute, HDF Attributes, HDF Vdata, HDF (RIS8, RIS24), HDF SDS, SDS with attributes, multiple HDF SDSs, multiple Vdatas.

ASCII

HDF

Binary

netCDF

NMC GRIB

CCSDS - Consultative Committee for Space Data Systems establishes variety of standard formats e.g. time, telemetry packages, metadata, etc.

Reference Document: 420-TP-015-001, February 1997

**Class**

CSDTDescription

## **IndirectReference**

Name of object by which data are organized. Name is the ESDT related or other local name other than the formal CSDT reference. i.e. 2.5 degree bins for CERES, 5 degree bins for CERES, and source packets for level 0.

Content Source: DP

Domain:

Free Text

Reference Document: 420-TP-015-001, February 1997

### **Class**

CSDTDescription

## **InputGranuleID**

The unique identifier of the Input Granule.

Content Source: PDPS

### **Class**

InputGranule

## **InputPointer**

Data model logical reference to Input Granule.

Content Source: PDPS

Reference Document: 420-TP-015-001, February 1997

### **Class**

InputGranule

## **InstrumentCharacteristicDataType**

The datatype of the instrument characteristic/attribute defined by InstrumentCharacteristicName.

Content Source: DP (Collection)

Domain:

int  
varchar  
datetime  
date  
time  
float

Reference Document: 420-TP-015-001, February 1997

### **Class**

CollectionInstrumentCharacteristic

## **InstrumentCharacteristicDescription**

The description of the instrument attribute.

Content Source: DP (Collection)

Reference Document: 420-TP-015-001, February 1997

### **Class**

CollectionInstrumentCharacteristic

## **InstrumentCharacteristicName**

The unique name of the instrument characteristic attribute. Instrument characteristic(s) are instrument-specific attributes.

Content Source: DP (Collection)

### **Class(s)**

CollectionInstrumentCharacteristic

GranuleInstrumentCharacteristic

## **InstrumentCharacteristicUnit**

The units of the attribute defined with InstrumentCharacteristic.

Content Source: DP (Collection)

Reference Document: 420-TP-015-001, February 1997

### **Class**

CollectionInstrumentCharacteristic

## **InstrumentCharacteristicValue**

The value of the instrument characteristic defined by Instrument Characteristic.

Content Source: DP

### **Class**

GranuleInstrumentCharacteristic

## **InstrumentCharacteristicValue**

The value of the instrument characteristic defined by Instrument Characteristic.

Content Source: DP (Collection)

### **Class**

CollectionInstrumentCharacteristic

## **InstrumentLongName**

The expanded name of the primary sensory instrument (e.g. Advanced Spaceborne Thermal Emission and Reflective Radiometer).

Content Source: DP (Collection)

Domain:

Advanced Spaceborne Thermal Emission and Reflection Radiometer

Clouds and the Earth's Radiant Energy System

Clouds and the Earth's Radiant Energy System Flight Model 1

Clouds and the Earth's Radiant Energy System Flight Model 2

Enhanced Thematic Mapper Plus

Land Remote-Sensing Satellite  
Measurements Of Pollution In The Troposphere  
Moderate-Resolution Imaging Spectroradiometer  
Multi-Angle Imaging SpectroRadiometer  
Stratospheric Aerosol and Gas Experiment III

Reference Document: 420-TP-015-001, February 1997

**Class**

Instrument

**InstrumentShortName**

The unique identifier of an instrument. (e.g. ASTER)

Content Source: DP (Collection); PGE (Granule)

Domain:

ASTER  
CERES  
MODIS  
MOPITT  
MISR  
SAGE III  
ETM+  
CERES FM1  
CERES FM2

Reference Document: 420-TP-015-001, February 1997

**Class**

Instrument

**InstrumentTechnique**

The description of the instrument technique (e.g. solar and lunar occultations).

Content Source: DP (Collection)

Domain:

Broadband scanning radiometry  
Correlation Spectrometer  
Earth Limb-Scanning Grating Spectroradiometer

Imaging Radiometer  
Lunar Occultation  
Scanning Radiometer  
Self-calibrating solar/lunar occultation grating spectrometer  
Solar Occultation

Reference Document: 420-TP-015-001, February 1997

**Class**

Instrument

**Internal Name**

Internal service name for ECS subsystem use only (eg. ECS, non-ECS).

Content Source: IOS

**Class**

SignatureServiceAdvertisement

**JournalArticleName**

The name of the journal article.

Content Source: DP

Domain:

Free Text

Reference Document: 420-TP-015-001, February 1997

**Class**

JournalArticle

**KeywordDescription**

A description of the keyword.

Content Source: DP

**Class**

KeywordClass

## **KeywordID**

The unique identifier of a Keyword.

Content Source: DSS

### **Class**

KeywordClass

## **KeywordSource**

The authoritative source of the keyword (e.g. DIF Guide 2.1, FGDC).

Content Source: DP

Domain:

GCMD Valid Earth Science Locations

### **Class**

KeywordClass

## **KeywordType**

The type of the keyword.

Content Source: DP

Domain:

Theme Keyword

Spatial Keyword

Temporal Keyword

Stratum Keyword

ECSParameterKeyword

ECS KeywordID (ECSDiscipline, ECSTopic, ECSTerm, ECSVariable)

### **Class**

KeywordClass

## **LastName**

Last name of the individual which the contact role (producer, archiver, distributor, or data originator) applies. People are points of contact, rather than organizations, in cases where the association of the person to the data set is more significant than the association of the organization to the data set. They may also be included if both a single person and organization are provided as points of contact.

Content Source: DP

Domain:

Free Text

Reference Document: 420-TP-015-001, February 1997

## **Class**

ContactPerson

## **LastReviewDate**

Date of last QA peer review.

Content Source: DP; PGE

Reference Document: 420-TP-015-001, February 1997

## **Class**

ECSCollection

## **LatitudeResolution**

The minimum difference between two adjacent latitude values expressed in Geographic Coordinate Units of measure.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

## **Class**

GeographicCoordinateSystem

## **LocalCoordinateSystemDescription**

A description of the coordinate system and its orientation to the surface of the Earth.

Content Source: DP

Domain:

Free Text

Central Body, Fixed (CBF)

Central Body, Inertial (CBI)

Local Horizontal (LH)

Vertical Vehicle Local Horizontal (VVLH)

Reference Document: 420-TP-015-001, February 1997

### **Class**

LocalCoordinateSystem

## **LocalGeoreferenceInformation**

A description of the information provided to register the local system to the Earth (e.g. control points, satellite ephemeral data, inertial navigation data).

Content Source: DP

Domain:

Free Text

### **Class**

LocalCoordinateSystem

## **LocalGranuleID**

Unique identifier for locally produced granule that ECS ingests and is required to capture.

Content Source: PGE

Reference Document: 420-TP-015-001, February 1997

### **Class**

ECSDataGranule

## **LocalPlanarCoordinateSystemDescription**

A description of the local planar coordinate system.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

### **Class**

LocalPlanarCoordinateSystem

## **LocalPlanarGeoreferenceInformation**

A description of the information provided to register the local planar system to the Earth (e.g. control points, satellite ephemeral data, inertial navigation data).

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

### **Class**

LocalPlanarCoordinateSystem

## **LocalVersionID**

Local version identifier for PGE defined granule versions.

Reference Document: 420-TP-015-001, February 1997

### **Class**

ECSDataGranule

## **LongitudeResolution**

The minimum difference between two adjacent longitude values expressed in Geographic Coordinate Units of Measure.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

### **Class**

GeographicCoordinateSystem

## **LongName**

This attribute will identify the long name associated with the collection. This includes dataset name/product name. This is the reference name used in describing the scientific contents of the data collection; it is not the 'id' of the data. The existing SPSO product names provide a start point.

Content Source: DP

Domain:

reference RTM ECS ESDT LongName Baseline and proposed ESDTLongName Baseline on EDHS

Reference Document: 420-TP-015-001, February 1997

## **Class**

CollectionDescriptionClass

## **MaintenanceandUpdateFrequency**

The frequency with which changes and additions are made to the collection after the initial dataset begins to be collected/processed.

Content Source: DP

Domain:

Continually - The collection is updated more frequently than once a day.

Daily - The collection is updated once per day, every day.

Weekly - The collection is updated once per week.

Monthly - The collection is updated once per calendar month.

Annually - The collection is updated once per year; the first date of update is usually one year after the first date of receipt of data from this collection's source.

Unknown

As Needed - The collection is updated as determined by the Principal Investigator or according to on-demand requests from end users.

Irregular - The collection is updated on an unscheduled but periodic basis.

None Planned - The collection is complete and therefore will not be updated further.

Reference Document: 420-TP-015-001, February 1997

## **Class**

SingleTypeCollection

## **MapProjectionName**

The name of the systematic representation of all or part of the surface of the Earth on a plane or developable surface.

Content Source: DP

Domain:

Lambert Azimuthal Equal Area - Requires standard parallel, longitude and scale factor of central meridian, latitude/longitude and scale factor of projection origin, false easting and northing, scale factor at equator & center line, height of perspective point above the surface, latitude/longitude of projection center, oblique line azimuth (angle+lat of origin), oblique line point (lat/lon), straight vertical longitude from pole.

Polar Stereographic - Requires standard parallel, longitude and scale factor of central meridian, latitude/longitude and scale factor of projection origin, false easting and northing, scale factor at equator & center line, height of perspective point above the surface, latitude/longitude of projection center, oblique line azimuth (angle+lat of origin), oblique line point (lat/lon), straight vertical longitude from pole.

Space Oblique Mercator B - Requires standard parallel, longitude and scale factor of central meridian, latitude/longitude and scale factor of projection origin, false easting and northing, scale factor at equator & center line, height of perspective point above the surface, latitude/longitude of projection center, oblique line azimuth (angle+lat of origin), oblique line point (lat/lon), straight vertical longitude from pole, plus the Landsat Satellite Number and the Path Number reflecting the orbit if the Landsat satellite.

Transverse Mercator - Requires standard parallel, longitude and scale factor of central meridian, latitude/longitude and scale factor of projection origin, false easting and northing, scale factor at equator & center line, height of perspective point above the surface, latitude/longitude of projection center, oblique line azimuth (angle+lat of origin), oblique line point (lat/lon), straight vertical longitude from pole.

Lambert Conformal Conic

Mercator

Polyconic

Integerized Sinusoidal Grid

Interrupted Goode Homolosine - A pseudocylindrical composite derived form the Sinusoisal and Mollweide projections.

Reference Document: 420-TP-015-001, February 1997

**Class**

MapProjection

## **MapProjectionPointer**

This is a data modeling logical reference to a map projection.

Content Source: DSS

Reference Document: 420-TP-015-001, February 1997

### **Class**

MapProjection

## **MaximumAltitude**

The maximum altitude of a granule expressed in AltitudeDistanceUnits.

Content Source: PGE

### **Class**

GranuleAltitudeDomain

## **MaximumDepth**

The maximum depth of a granule expressed in DepthDistanceUnits.

Content Source: PGE

### **Class**

GranuleDepthDomain

## **MiddleName**

Middle name of the individual which the contact role (producer, archiver, distributor, or data originator) applies. People are points of contact, rather than organizations, in cases where the association of the person to the data set is more significant than the association of the organization to the data set. They may also be included if both a single person and organization are provided as points of contact.

Content Source: DP

Domain:

Free Text

Reference Document: 420-TP-015-001, February 1997

**Class**

ContactPerson

**MinimumAltitude**

The minimum altitude of a granule expressed in AltitudeDistanceUnits.

Content Source: PGE

**Class**

GranuleAltitudeDomain

**MinimumDepth**

The minimum depth of a granule expressed in DepthDistanceUnits.

Content Source: PGE

**Class**

GranuleDepthDomain

**NorthBoundingCoordinate**

The northern-most coordinate of the limit of coverage of a granule expressed in latitude.

Content Source: PGE

**Class**

GranuleBoundingRectangle

**NumberofSensors**

The number of defined sensors associated with a specific instrument (if applicable).

Content Source: DP (Collection)

Reference Document: 420-TP-015-001, February 1997

**Class**

Instrument

**ObservationFrequency**

The frequency of observations that comprise a granule.

Content Source: PGE

Domain:

day  
month  
year  
seconds

minutes  
hours

**Class**

ECSDataGranule

**OldGazFeatureID**

The unique identifier of the previous Gazetteer Feature.

Content Source: IOS

**Class**

GazGeographicFeature

**OperationalQualityFlag**

The granule level flag applying both generally to a granule and specifically to parameters at the granule level. When applied to parameter, the flag refers to the quality of that parameter for the granule (as applicable). The parameters determining whether the flag is set are defined by DAAC operational staff and documented in the QualityFlagExplanation.

Content Source: DAAC

Domain:

Passed - The granule (forparameter) has passed a specified operational test.

Failed - The granule (forparameter) has failed a specified operational test.

Being Investigated - The granule (forparameter) is suspect and being investigated using a operational test.

Not Investigated - The granule (forparameter) has not been investigated by DAAC operational staff.

**Class**

QAFlags

## **OperationalQualityFlagExplanation**

A text explanation of the criteria used to set operational quality flag; including thresholds or other criteria.

Content Source: DAAC

**Class**

QAFlags

## **OperationMode**

Mode of operation of the instrument. Each instrument will have 1 to n modes which may be static for the collection, or change on a granule-by-granule basis. (e.g. domains: launch, survival, initialization, safe, diagnostic, roll, tilt, standby, routine, test, calibration).

Content Source: DP(collection);PGE(granule)

Domain:

Calibration

Diagnostic

Fixed azimuth plane scan

Initialization

Launch

Normal

Roll

Rotating azimuth plane scan

Routine

Safe

Solar calibration

Standby

Survival

Test

Tilt

Reference Document: 420-TP-015-001, February 1997

#### **Class**

GranuleInstrumentXref

CollectionInstrumentOperationMode

## **Orbit**

This attribute represents the spatial footprint of a granule.

Content Source: DSS

#### **Class**

OrbitPolygons

## **OrbitalModelName**

The reference to the orbital model to be used to calculate the geolocation of this data in order to determine global spatial extent.

Content Source: PGE

Domain:

Free Text

Reference Document: 420-TP-015-001, February 1997

#### **Class**

OrbitCalculatedSpatialDomain

## **OrbitNumber**

The orbit number to be used in calculating the spatial extent of this data.

Content Source: PGE

Reference Document: 420-TP-015-001, February 1997

**Class**

OrbitCalculatedSpatialDomain

**OrbitParameterGranuleID**

The unique identifier of an OrbitParameterGranule.

Content Source: DSS

**Class**

OrbitParameterGranule

**OrbitParameterPointer**

Data model reference to the orbit parameter information.

Content Source: DSS

Reference Document: 420-TP-015-001, February 1997

**Class**

OrbitParameterGranule

**OrdinateResolution**

The (nominal) minimum distance between the 'y' or row values of two adjacent points, expressed in Planar Distance Units of measure. Planar Distance Units of measure are units for distances whose domain values are meters, international feet, and survey feet.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

**Class**

CoordinateRepresentation

## **OrganizationLongName**

The extended or LongName of an Organization (e.g. National Oceanic and Atmospheric Administration).

Content Source: DP

Domain:

GSFC - Goddard Space Flight Center

LaRC - Langley Research Center

ORNL - Oak Ridge National Laboratory

EDC - EROS Data Center

NSIDC - National Snow and Ice Data Center

JPL - Jet Propulsion Laboratory

CIESIN - Consortium for International Earth Science Information Network

EDOS - EOS Data and Operations System

MISR SCF/LARC - MISR Science Computing Facility at LARC

**Class**

ContactOrganization

## **OrganizationShortName**

The ShortName or abbreviated name of an Organization (e.g. NOAA).

Content Source: DP

Domain:

GSFC - Goddard Space Flight Center

LaRC - Langley Research Center

ORNL - Oak Ridge National Laboratory

EDC - EROS Data Center

NSIDC - National Snow and Ice Data Center

JPL - Jet Propulsion Laboratory

CIESIN - Consortium for International Earth Science Information Network

EDOS - EOS Data and Operations System

MISR SCF/LARC - MISR Science Computing Facility at LARC

Reference Document: 420-TP-015-001, February 1997

**Class**

ContactOrganization

## **OuterGRingPointLatitude**

The geodetic latitude of an outer point of the G-ring.

Content Source: PGE(granule)

### **Class**

GranuleOuterGRingPoint

## **OuterGRingPointLatitude**

The geodetic latitude of a point of the Outer G-ring.

Content Source: DP

### **Class**

CollectionOuterGRingPoint

## **OuterGRingPointLongitude**

The longitude of a point of the Outer G-ring.

Content Source: DP

### **Class**

CollectionOuterGRingPoint

## **OuterGRingPointLongitude**

The longitude of a outer point of the G-Ring.

Content Source: PGE(granule)

### **Class**

GranuleOuterGRingPoint

## **OuterGRingPointSequenceNo**

Value denotes the numerical sequence position of a Outer G-Ring point.

Content Source: PGE(granule)

### **Class**

GranuleOuterGRingPoint

## **OuterGRingPointSequenceNo**

Value denotes the numerical sequence position of a G-Ring point.

Content Source: DP

### **Class**

CollectionOuterGRingPoint

## **PackageSize**

Size of package for the installable service. Each PackageSize contains 'x' bytes.

Content Source: IOS

### **Class**

InstallableServiceAdvertisement

## **ParameterMeasurementResolution**

This attribute will be used to identify the smallest unit increment to which the parameter value is measured.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

### **Class**

ECSParameterKeywordDetails

## **ParameterName**

The measured science parameter expressed in the data granule.

Content Source: DP

### **Class**

MeasuredParameter

## **ParameterRangeBegin**

The minimum value of the range.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

### **Class**

ECSParameterKeywordDetails

## **ParameterRangeEnd**

The maximum value of the range.

Content Source: DP

### **Class**

ECSParameterKeywordDetails

## **ParameterUnitsofMeasurement**

The standard units of measurement for a non-core attribute.

Content Source: DP

Domain:

Free Text

Reference Document: 420-TP-015-001, February 1997

**Class**

ECSParameterKeywordDetails

**ParameterValueAccuracy**

An estimate of the accuracy of the assignment of attribute value. i.e. AVHRR: Measurement Error or Precision=Measurement error or precision of a data product parameter. This can be specified in percent or the units with which the parameter is measured.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

**Class**

ECSParameterKeywordDetails

**ParameterValueAccuracyExplanation**

This defines the method used for determining the Parameter Value Accuracy that is given for this non core attribute.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

**Class**

ECSParameterKeywordDetails

**Period1stDate**

This attribute provides the date of the first occurrence of this regularly occurring period which is relevant to the collection, granule, or event coverage.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

**Class**

RegularPeriodic

## **Period1stTime**

This attribute denotes the time of the first occurrence of this regularly occurring period which is relevant to the collection, granule, or event coverage.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

### **Class**

RegularPeriodic

## **PeriodCycleDurationUnit**

The unit specification of the period cycle duration.

e.g. the RegularPeriodic event 'Spring-North Hemi' might have a

PeriodDurationUnit='month'

PeriodDurationValue=3.0

PeriodCycleDurationUnit='year'

PeriodCycleDurationValue='1.0

indicating that Spring-North Hemi lasts for 3.0 months and has a cycle duration of 1 year.

Example values include:

decade,

year,

month,

week,

day,

hour,

minute,

second,

microsecond,

millisecond

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

### **Class**

RegularPeriodic

## **PeriodCycleDurationValue**

The number of PeriodCycleDurationUnits in the period cycle.

e.g. the RegularPeriodic event 'Spring-North Hemi' might have a PeriodDurationUnit='month'

PeriodDurationValue=3.0

PeriodCycleDurationUnit='year'

PeriodCycleDurationValue='1.0

indicating that Spring-North Hemi lasts for 3.0 months and has a cycle duration of 1.0 year.

The unit for this attribute is the value of the attribute PeriodCycleDurationUnit.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

### **Class**

RegularPeriodic

## **PeriodDurationUnit**

The unit specification for the period duration.

Example values include:

decade,

year,

month,

week,

day,

hour,

minute,

second,

microsecond,

millisecond

Content Source: DP

Domain:

Free Text

Reference Document: 420-TP-015-001, February 1997

### **Class**

RegularPeriodic

## **PeriodDurationValue**

The number of PeriodDurationUnits in the RegularPeriodic period.

e.g. the RegularPeriodic event 'Spring-North Hemi' might have a PeriodDurationUnit='month'

PeriodDurationValue=3.0

PeriodCycleDurationUnit='year'

PeriodCycleDurationValue='1.0

indicating that Spring-North Hemi lasts for 3.0 months and has a cycle duration of 1.0 year.

The unit for the attribute is the value of the attribute PeriodDurationValue.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

### **Class**

RegularPeriodic

## **PeriodName**

The name given to the recurring time period.

e.g. 'spring - north hemi.'

Content Source: DP

Domain:

Free Text

Reference Document: 420-TP-015-001, February 1997

### **Class**

RegularPeriodic

## **PGEDateLastModified**

Date when PGE information was last modified.

Content Source: DP

### **Class**

AlgorithmPackage

## **PGEFunction**

Function(s)performed by PGE.

Content Source: DP

### **Class**

AlgorithmPackage

## **PGEIdentifier**

Each PGE is to have a unique identifier assigned by the SDPS/W developer. This unique identifier may be one component of a longer name that includes instrument acronym, PGE version number, and release date.

Content Source: DP; DAAC

### **Class**

AlgorithmPackage

## **PGEName**

Name of Product Generation Executive.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

### **Class(s)**

AlgorithmPackage

ECS Data Granule

## **PGEVersion**

The version of Product Generation Executive (PGE).

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

### **Class**

AlgorithmPackage

## **PGEVersion**

The version of Product Generation Executive (PGE).

Content Source: DP

### **Class**

ECSDataGranule

## **PlanarCoordinateEncodingMethod**

The means used to represent horizontal positions in the planar coordinate system.

Content Source: DP

Domain:

Coordinate Pair - Will require description of encoding method in 'Coordinate Representation' in terms of abscissa and ordinate resolutions.

Distance and Bearing - Will require encoding method description using 'Distance and Bearing Representation', in terms of distance resolution, bearing resolution, bearing units, bearing reference direction, and bearing reference meridian.

Row and Column - Will require encoding method description using 'Coordinate Representation', in terms of abscissa and ordinate resolutions.

### **Class**

PlanarCoordinateSystem

## **PlanarCoordinateSystemType**

The type of Planar Coordinate System with three possible values: MapProjection, LocalPlanarCoordinateSystem, and GridCoordinateSystem.

Content Source: DP

### **Class**

PlanarCoordinateSystem

## **PlanarDistanceUnits**

Units of measure used for planar coordinate description distances.

Content Source: DP

Domain:

meters

Reference Document: 420-TP-015-001, February 1997

### **Class**

PlanarCoordinateSystem

## **PlannedDataSets**

Copy of content of line 5 of Production Plans; containing collection ShortName to be produced.

Content Source: PLS

Reference Document: 420-TP-015-001, February 1997

### **Class**

ProductionPlan

## **PlatformCharacteristicDataType**

The datatype of the Platform Characteristic/attribute defined by PlatformCharacteristicName.

Content Source: DP (Collection).

Domain:

date  
datetime  
float  
int  
time  
varchar

Reference Document: 420-TP-015-001, February 1997

### **Class**

PlatformCharacteristic

## **PlatformCharacteristicDescription**

Description of the Platform Characteristic attribute.

Content Source: DP (Collection)

Reference Document: 420-TP-015-001, February 1997

### **Class**

PlatformCharacteristic

## **PlatformCharacteristicName**

The name of the Platform Characteristic attribute.

Content Source: DP (Collection)

Reference Document: 420-TP-015-001, February 1997

### **Class**

PlatformCharacteristic

## **PlatformCharacteristicUnit**

Units associated with the Platform Characteristic attribute value.

Content Source: DP (Collection)

Reference Document: 420-TP-015-001, February 1997

### **Class**

PlatformCharacteristic

## **PlatformCharacteristicValue**

The value of the characteristic/attribute defined in PlatformCharacteristic. Attributes must have single values. (e.g. Model Number = 209)

Content Source: DP (Collection)

Reference Document: 420-TP-015-001, February 1997

**Class**

PlatformCharacteristic

**PlatformID**

The identifier of the platform for a collection.

Content Source: DS

**Class**

Platform

**PlatformLongName**

The expanded or long name of the platform associated with an instrument.

Content Source: DP (Collection)

Domain:

Ante Meridian-1

Landsat-7

Meteor-3M

**Class**

PlatformModel

**PlatformSequenceNo**

The platform sequence, mission, cruise, or series identifier. For non-reusable satellites this equates to the unique satellite series number (e.g. ShortName= Landsat, PlatformSeqNo=7). For reusable space platforms such as the Space Shuttle this is equivalent to the mission number (e.g. 52).

Content Source: DP

**Class**

Platform

## **PlatformShortName**

The unique identifier of a specific platform (e.g. AM1, TRMM, PM).

Content Source: DP(Collection); PGE(Granule)

Domain:

AM-1  
L7 - Landsat-7  
Meteor-3M  
Unknown

Reference Document: 420-TP-015-001, February 1997

### **Class**

PlatformModel

## **PlatformType**

The generic type of an observing platform associated with the acquisition of the data (e.g. aircraft, spacecraft).

Content Source: DP

Domain:

Aircraft (incl. balloons)  
Buoy  
Human  
Network  
Other (e.g. animal mounted instruments)  
Platform  
Spacecraft  
Station  
Vehicle  
Vessel (Ship)

Reference Document: 420-TP-015-001, February 1997

### **Class**

Platform

## **PointLatitude**

The latitude of point which defines the single location of a granule.

Content Source: PGE

### **Class**

GranulePoint

## **PointLongitude**

The longitude of point which defines the single location of a granule.

Content Source: PGE

### **Class**

GranulePoint

## **PostalCode**

The zip or other postal code of the address.

Content Source: DP; DAAC

Domain:

Free Text

### **Class**

ContactAddress

## **PrecisionofSeconds**

The precision (position in number of places to right of decimal point) of seconds used in measurement.

Content Source: DP

### **Class**

ECSCollection

## **PrimaryCSDT**

The primary data type (CSDT) of the collection. Computer Science Data Types are the physical storage types required to support Earth Science Data Types(ESDTs).

Content Source: DP; DAAC

Domain:

ASCII Text - Free-form textual structure for storing labels or long descriptions for display.

RTF Formatted ASCII Text - Formatted text for transfer in Rich Text Format.

HTML Formatted ASCII Text - Formatted text for transfer in HyperText Markup Language.

PS Formatted ASCII Text - Formatted text for transfer in Postscript.

PDF Formatted ASCII Text - Formatted text for transfer in Portable Document Format.

Binary - Text and graphics document in document processing application proprietary format.

P=V Metadata - 'Label=Value' where label is a field name and value is either a single value or list of values.

Standard Science Data Table - Binary and/or ASCII tabular data.

Indexed Science Data Table - Binary and/or ASCII tabular data which includes indices to other data objects.

Image - 2D raster data type.

n-Dim Array of Records - Binary n-dimensional array of cells that consist of records. A record can consist of multiple fields of varying type such as integer, floating point and string.

n-Dim Array of Scalars - Binary n-dimensional array of cells that consist of scalars of a single type. (e.g., one of 8-, 16- or 32-bit signed or unsigned integers; or 32- or 64-bit floating point). Can be conceptually viewed as an instantiation of the Array of Records where each record is a single field.

Projected Grid - Data which has been projected and binned into a rectangular grid using a known methodology. Metadata such as projection name, projection limits, and geometry are included in order to identify geo-location and coverage of grid cells.

Structured Grid - Data which has been projected and binned into a non-rectilinear data structure using a known methodology. Metadata such as projection name, projection limits, and geometry are included in order to identify geo-location and coverage of data structure cells.

Simple Swath - Typically, swath data arrays will be two dimensional arrays, corresponding to a 2D 'image' of the ground along the orbital track. Sometimes, though, swath data arrays may be 1D arrays, where there is one element

per scan (time, altitude, etc.). Additionally, swath data arrays could have 3 or more dimensions, where the additional dimensions are channel number or altitude. A 'simple' swath structure is designated where every data array is of the same size and resolution.

Complex Swath - Created by a sensor making N observations in the across-track direction. The along-track direction causes the footprint to form a ribbon of M scans along the subnadir track. The data forms an array of observations N by M by L (where L is the number of spectral band values taken for each observation time). An additional array of geo-location or observation time data is provided at a resolution equal or lower than the observations. The Complex Swath may have observations of varying resolution.

Standard Point - Data made up of records and fields with some set of fields constituting a point location. Fields can be of any type. The location fields, taken together, can be considered the 'location record'. Metadata constituting 'header' data which applies to the entire table is included.

Indexed Point - Data made up of records and fields with some set of fields constituting a point location. Fields can be of any type including pointers. The location fields, taken together, can be considered the 'location record'. Some fields may be repeated for a set of observations; these fields may be separated as part of a 'header', table which would include pointers, offsets, and counts to the repeating data table or tables.

Structure - Group of datatypes. e.g. HDF Vgroup.

Reference Document: 420-TP-015-001, February 1997

## Class

CSDTDescription

## ProcessingLevelDescription

This attribute provides a set of characteristics that can be combined to define science processing levels which do not conform to the standards found in ProcessingLevelID.

Content Source: DP

Domain:

RAW - Raw instruments.

CNTS - Converted to counts.

RADCORR - Radiometrically corrected.

GEOQUANT - Counts converted to geophysical quantities.

GEOLOC - Geolocated.

GRID - Gridded.

Sensor Measurements

Radiometric Counts

Telemetry Data

Level 1B Radiances

Geophysical Quantities at the sensor resolution or geolocated

**Class**

ProcessingLevel

**ProcessingLevelID**

This attribute reflects the classification of the science data processing level, which defines in general terms the characteristics of the output of the processing performed.

Content Source: DP

Domain:

0 - Raw instrument data at original resolution, time ordered, with duplicate packets removed.

1A - Level 0 data, which may have been reformatted or transformed reversibly, located to a coordinate system, and packaged with needed ancillary and engineering data.

1B - Radiometrically corrected and calibrated data in physical units at full instrument resolution as acquired.

2 - Retrieved environmental variables (e.g., ocean wave height, soil moisture, ice concentration) at the same location and similar resolution as the Level 1 source data.

3 - Data or retrieved environmental variables that have been spatially and/or temporally resampled (i.e., derived from Level 1 or Level 2 data products). Such resampling may include averaging and compositing.

4 - Model output and/or variables derived from lower level data which are not directly measured by the instruments.

For example, new variables based upon a time series of Level 2 or Level 3 data.

Not Available

Not Applicable - Under review by AHWGP.

**Class**

ProcessingLevel

**ProcessingQAAttribute**

This attribute identifies the non-science QA attribute which did not meet pre-defined parameter thresholds during validation processing.

Content Source: PDPS

Domain:

AdditionalAttributeValue

CalendarDate

ECSDataGranuleSize

EquatorCrossingDate

EquatorCrossingLongitude  
EquatorCrossingTime  
GranuleRangeBeginningDate  
GranuleRangeBeginningTime  
GranuleRangeEndingDate  
GranuleRangeEndingTime  
OrbitModelName  
OrbitNumber  
ReprocessingActual  
ReprocessingPlanning  
ShortName  
StartOrbitNumber  
StopOrbitNumber  
VerticalSpatialDomainType

Reference Document: 420-TP-015-001, February 1997

#### **Class**

ProcessingQA

### **ProcessingQADescription**

This attribute provides description of the error encountered during processing for the specified Processing QA Attribute.

Content Source: PDPS

Reference Document: 420-TP-015-001, February 1997

#### **Class**

ProcessingQA

### **ProcessingReportPeriod**

Period of processing report.

Content Source: PLS

Domain:

90  
30  
7  
3  
1

Reference Document: 420-TP-015-001, February 1997

**Class**

ProcessingReport

**ProcessingReportType**

Type of processing report supplied by Planning Subsystem.

Content Source: PLS

Domain:

Error

Resource Usage

Status

Reference Document: 420-TP-015-001, February 1997

**Class**

ProcessingReport

**ProductionDateTime**

The date and time a specific granule was produced by a PGE.

Content Source: PGE

Reference Document: 420-TP-015-001, February 1997

**Class**

ECSDataGranule

**ProductionHistoryID**

The unique identifier of the granule production history.

Content Source: DSS

**Class**

ProductionHistory

## **ProductionHistoryPointer**

Data model logical reference to the granule level production history file.

Content Source: DSS

Reference Document: 420-TP-015-001, February 1997

### **Class**

ProductionHistory

## **ProductionPlanDescription**

The description of the production plan.

Content Source: PLS

Reference Document: 420-TP-015-001, February 1997

### **Class**

ProductionPlan

## **ProductionPlanEndDate**

The ending date for which the production plan is applicable.

Content Source: PLS

Reference Document: 420-TP-015-001, February 1997

### **Class**

ProductionPlan

## **ProductionPlanForecast**

The span of time within the plan (measured in days). i.e. the forecast horizon within the production plan.

Content Source: PLS

Reference Document: 420-TP-015-001, February 1997

### **Class**

ProductionPlan

## **ProductionPlanStartDate**

The beginning date for which the production plan is applicable.

Content Source: PLS

Reference Document: 420-TP-015-001, February 1997

### **Class**

ProductionPlan

## **ProductURL**

URL of the Product.

### **Class**

ProductAdvertisement

## **ProviderURL**

Provider of the URL.

Content Source: IOS

### **Class**

ProviderAdvertisement

## **QAGranuleID**

The unique identifier of the QA granule.

Content Source: DSS

### **Class**

QAGranule

## **QAGranulePointer**

Data model logical reference to QA Granule.

Content Source: DSS

Reference Document: 420-TP-015-001, February 1997

### **Class**

QAGranule

## **QAPercentCloudCover**

This attribute is used to characterize the cloud cover amount of a granule and may be repeated for individual measured parameters.

Content Source: PGE

Reference Document: 420-TP-015-001, February 1997

### **Class**

QAStats

## **QAPercentInterpolatedData**

Granule level percent interpolated data. This attribute can be repeated for individual parameters within a granule.

Content Source: PGE

Reference Document: 420-TP-015-001, February 1997

### **Class**

QAStats

## **QAPercentMissingData**

Granule level percent missing data. This attribute can be repeated for individual parameters within a granule.

Content Source: PGE

Reference Document: 420-TP-015-001, February 1997

**Class**

QAStats

**QAPercentOutofBoundsData**

Granule level percent out of bounds data. This attribute can be repeated for individual parameters within a granule.

Content Source: PGE

Reference Document: 420-TP-015-001, February 1997

**Class**

QAStats

**QualityTextCommentPointer**

Data model logical reference to collection level pointer to Quality Text Comment document.

Content Source: DSS

Reference Document: 420-TP-015-001, February 1997

**Class**

QualityTextComment

**RadiusUnits**

The unit of measurement describing the distance from the center of spatial extent or coverage to the furthest point covered by the spatial extent of the locality used to determine a circular region representing general extent or coverage.

Content Source: PGE(granule)

**Class**

GranuleCircle

## **RadiusValue**

The distance from the center of spatial extent or coverage to the furthest point covered by the spatial extent of the locality, stated in RadiusUnits, used to determine a circular region representing general extent or coverage.

Content Source: PGE(granule)

### **Class**

GranuleCircle

## **RangeBeginningDate**

The beginning date of the temporal extent of the granule.

Content Source: PGE

### **Class**

ECSDataGranule

## **RangeBeginningTime**

The beginning time of the temporal extent of the granule.

Content Source: PGE

### **Class**

ECSDataGranule

## **RangeEndingDate**

The ending date of the temporal extent of the granule.

Content Source: PGE

### **Class**

ECSDataGranule

## **RangeEndingTime**

The ending time of the temporal extent of the granule.

Content Source: PGE

### **Class**

ECSDataGranule

## **ReferencePaperID**

Contains the unique ID of the Reference Paper as issued by publisher, such as 'NOS NSG 5', or 'JPL Publication 91-29'.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

### **Class**

ReferencePaper

## **ReferencePaperType**

Contains the type of reference paper.

Content Source: DP

Domain:

JournalArticle

StandAloneDocument

### **Class**

ReferencePaper

## **ReprocessingActual**

Granule level, stating what reprocessing has been performed on this granule.

Content Source: DAAC

Doamin:

processed once  
reprocessed once  
reprocessed twice

Reference Document: 420-TP-015-001, February 1997

**Class**

ECSDataGranule

**ReprocessingPlanned**

Granule level, stating what reprocessing may be performed on this granule.

Content Source: DAAC

Domain:

further update anticipated using enhanced PGE  
further update is anticipated  
no futher update anticipated

Reference Document: 420-TP-015-001, February 1997

**Class**

ECSDataGranule

**RevisionDate**

Represents the date and possibly the time that this directory entry was created or the latest date and time of its modification or update.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

**Class**

ECSCollection

## **Role**

Classification of individuals who are associated with a given data set.

Content Source: DP

Domain:

ArchiveCenter

Distributor

FundingSource

Investigator

ProcessingCenter

Producer

Reference Document: 420-TP-015-001, February 1997

## **Class**

CollectionContactXref

## **ScienceQualityFlag**

Granule level flag applying to a granule, and specifically to parameters. When applied to parameter, the flag refers to the quality of that parameter for the granule (as applicable). The parameters determining whether the flag is set are defined by the developers and documented in the Quality Flag Explanation.

Content Source: DP, DAAC

Domain:

Passed - The granule (forparameter) has passed a specified science test.

Failed - The granule (forparameter) has failed a specified science test.

Being Investigated - The granule (forparameter) is being investigated by an expert.

Validated - The granule (forparameter) has been validated by an expert.

Not Investigated - The granule (forparameter) has not been investigated by an expert.

## **Class**

QAFlags

## **ScienceQualityFlagExplanation**

A text explanation of the criteria used to set science quality flag; including thresholds or other criteria.

Content Source: DP

Content Source: DP

Alias:

**Class**

QAFlags

**SemiMajorAxis**

Radius of the equatorial axis of the ellipsoid.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

**Class**

GeodeticModel

**SensorCharacteristicName**

The name of the Sensor Characteristic.

Content Source: DP

**Class**

GranuleSensorCharacteristic

**SensorCharacteristicValue**

The value of the Sensor Characteristic defined by the SensorCharacteristicName.

Content Source: DP

**Class**

GranuleSensorCharacteristic

**SensorLongName**

The expanded name of the sensor.

Content Source: DP (Collection)

Domain:

Charged Coupled Devicebased  
Charged Coupled Devicebased Pushbroom Nadir Viewing Camera A  
Charged Coupled Devicebased Pushbroom Fore Viewing Camera A  
Charged Coupled Devicebased Pushbroom Aft Viewing Camera A  
Charged Coupled Devicebased Pushbroom Nadir Viewing Camera B  
Charged Coupled Devicebased Pushbroom Fore Viewing Camera B  
Charged Coupled Devicebased Pushbroom Aft Viewing Camera B  
Charged Coupled Devicebased Pushbroom Nadir Viewing Camera C  
Charged Coupled Devicebased Pushbroom Fore Viewing Camera C  
Charged Coupled Devicebased Pushbroom Aft Viewing Camera C  
Charged Coupled Devicebased Pushbroom Nadir Viewing Camera D  
Charged Coupled Devicebased Pushbroom Fore Viewing Camera D  
Charged Coupled Devicebased Pushbroom Aft Viewing Camera D  
Correlation Spectrometer at 2.3um  
Correlation Spectrometer at 2.4um  
Correlation Spectrometer at 4.7um  
Enhanced Thematic Mapper Plus  
PIN Diode Spectrometer Radiometry  
Shortwave Infrared  
Shortwave Scanning Thermistor Bolometer Detector  
Thermal Infrared  
Total Scanning Thermistor Bolometer Detector  
Visible Near Infrared  
Window Scanning Thermistor Bolometer Detector

Reference Document: 420-TP-015-001, February 1997

## Class

Sensor

## SensorShortName

A sensor is a defined sensory sub-component of an instrument. (e.g. InstrumentShortName=ASTER, NumberofSensors= 3, SensorShortName= SWIR, SensorShortName= TIR, SensorShortName= VNIR) In cases where the Instrument has a single Sensor or the Instrument and Sensor are synonymous then both attributes should be populated. (e.g. AVHRR). Sensors cannot exist without Instruments.

Content Source: DP

Domain:

CCD  
CCD Camera Aa

CCD Camera Af

CCD Camera An

CCD Camera Ba

CCD Camera Bf

CCD Camera Bn

CCD Camera Ca

CCD Camera Cf

CCD Camera Cn

CCD Camera Da

CCD Camera Df

CCD Camera Dn

ETM+

PIN Diode

Shortwave Detector

SWIR

TIR

Total Detector

VNIR

Window Detector

2.3um Radiometer

2.4um Radiometer

4.7um Radiometer

Reference Document: 420-TP-015-001, February 1997

#### **Class**

Sensor

### **SensorTechnique**

The sensor technique. (e.g. laser altimetry).

Content Source: DP (Collection)

Domain:

Broadband Thermistor Bolometry

Spectrometry

Spectroscopy

Whiskbroom Scanning Radiometry

Reference Document: 420-TP-015-001, February 1997

#### **Class**

Sensor

**SeqNumber**

Line number for description over 255 positions.

Content Source: IOS

**Class**

AdvertisementDescription

**SeqNumber**

The sequence number of an advertisement.

Content Source: IOS

**Class**

AdvertisementUR

**SeqNumber**

The sequence number of an signature.

Content Source: IOS

**Class**

Signature

**ServiceClass**

This attribute describes the class of service. (e.g. subset).

Content Source: IOS, DSS

**Class**

SignatureServiceAdvertisement

**ServiceName**

The name of the service, such as SubsetByParameter which belongs to the ServiceClass Subset.

Content Source: DSS, IOS

Reference Document: 420-TP-015-001, February 1997

**Class**

SignatureServiceAdvertisement

**ServiceURL**

URL that references the service for a MIME type service advertisement. This URL is what would be invoked to access the service.

Content Source: IOS

**Class**

MimeServiceAdvertisement

**ShortName**

This name will identify the short name associated with the collection. This includes the ECS Technical Baseline product names, i.e. CER02, MOD12, etc. This is the official reference name used in identifying the contents of the data collection.

Content Source: DP

Domain:

reference RTM ECS ESDT ShortName Baseline and proposed ESDT ShortName Baseline on EDHS

Reference Document: 420-TP-015-001, February 1997

**Class**

CollectionDescriptionClass

**SouthBoundingCoordinate**

The southern-most coordinate of the limit of coverage expressed in latitude.

Content Source: PGE

**Class**

GranuleBoundingRectangle

**SpatialCoverageType**

This attribute denotes whether the locality/coverage requires horizontal, vertical, or both in the spatial domain and coordinate system definitions.

Content Source: DP

Domain:

Horizontal & Vertical

Horizontal

Vertical

Reference Document: 420-TP-015-001, February 1997

**Class**

Spatial

**SpatialDomainType**

The domain type which characterizes the spatial extent of a collection.

Content Source: PGE

Domain:

Horizontal & Vertical

Horizontal

Vertical

Reference Document: 420-TP-015-001, February 1997

**Class**

ECSCollection

## **SpatialID**

The unique identifier of a spatial reference system.

Content Source: DB(database)

### **Class**

Spatial

## **SpatialKeyword**

This attribute specifies a word or phrase which serves to summarize the spatial regions covered by the collection. It may be repeated if several regions are covered. This often occurs when a collection is described as covering some large region, and several smaller subregions within that region.

Content Source: DP

Domain:

Africa	Western Europe	Algeria
Antarctica	Eastern Europe	American Samoa
Arctic Ocean	Middle East	Andorra
Asia	Northern Hemisphere	Angola
Atlantic Ocean	Southern Hemisphere	Anguilla
Equatorial	Eastern Hemisphere	Antigua and Barbuda
Europe	Western Hemisphere	Argentina
Global	North Atlantic Ocean	Armenia
Indian Ocean	North Pacific Ocean	Australia
Mid-Latitude	South Atlantic Ocean	Austria
North America	South Pacific Ocean	Azerbaijan
Pacific Ocean	Baltic Sea	Bahamas
South America	Bering Sea	Bahrain
Southern Ocean	Black Sea	Bangladesh
Central America	Caribbean Sea	Barbados
Oceania	East China Sea	Belarus
North Africa	Gulf of Mexico	Belgium
Central Africa	Hudson Bay	Belize
West Africa	North Sea	Benin
Southern Africa	Red Sea	Bermuda
East Africa	Sea of Japan	Bhutan
Western Asia	Sea of Okhotsk	Bolivia
Central Asia	South China Sea	Bosnia and Herzegovina
Southern Asia	Yellow Sea	Botswana
Southeast Asia	Afghanistan	Brazil
Eastern Asia	Albania	Brunei Darussalam

Bulgaria	Guatemala	Mauritius
Burkina Faso	Guinea	Mexico
Burma	Guinea-Bissau	Micronesia
Burundi	Guyana	Moldova
Cambodia	Haiti	Monaco
Cameroon	Holy See	Mongolia
Canada	Honduras	Montserrat
Cape Verde	Hungary	Morocco
Central African Republic	Iceland	Mozambique
Chad	India	Namibia
Chile	Indonesia	Nauru
China	Iran	Nepal
Colombia	Iraq	Netherlands
Comoros	Ireland	New Zealand
Congo	Israel	Nicaragua
Cook Islands	Italy	Niger
Costa Rica	Jamaica	Nigeria
Cote d'Ivoire	Japan	Niue
Croatia	Jordan	Norway
Cuba	Kazakhstan	Oman
Cyprus	Kenya	Pakistan
Czech Republic	Kiribati	Palau
Denmark	Korea, DPR	Panama
Djibouti	Korea, Republic	Papua New Guinea
Dominica	Kuwait	Paraguay
Dominican Republic	Kyrgyzstan	Peru
Ecuador	Laos	Philippines
Egypt	Latvia	Poland
El Salvador	Lebanon	Portugal
Equatorial Guinea	Lesotho	Qatar
Eritrea	Liberia	Romania
Estonia	Libya	Russian Federation
Ethiopia	Liechtenstein	Rwanda
Fiji	Lithuania	San Marino
Finland	Luxembourg	Sao Tome and Principe
France	Macedonia, FYR	Saudi Arabia
Gabon	Madagascar	Senegal
Gambia	Malawi	Seychelles
Georgia	Malaysia	Sierra Leone
Germany	Maldives	Singapore
Ghana	Mali	Slovakia
Greece	Malta	Slovenia
Grenada	Marshall Islands	Solomon Islands
Guam	Mauritania	Somalia

South Africa	Tanzania	United Kingdom
Spain	Thailand	United States of America
Sri Lanka	Togo	Uruguay
St Kitts and Nevis	Tokelau	Uzbekistan
St Lucia	Tonga	Vanuatu
St Vincent and the Grenadines	Trinidad and Tobago	Venezuela
Sudan	Tunisia	Viet Nam
Suriname	Turkey	Wallis and Futuna Islands
Swaziland	Turkmenistan	Yemen
Sweden	Tuvalu	Yugoslavia
Switzerland	Uganda	Zaire
Syria	Ukraine	Zambia
Tajikistan	United Arab Emirates	Zimbabwe

Reference Document: 420-TP-015-001, February 1997

#### **Class**

SpatialKeywordClass

### **SSAPAlgorithmPackageName**

This attribute is the name given to the complete delivered package submitted for algorithm integration and test.

Content Source: DP

#### **Class**

SSAPComponent

### **SSAPInsertDate**

Data of insertion to the Data Server.

Content Source: DP

#### **Class**

SSAPComponent

**StartDate**

Date of Advertisement creation.

Content Source: IOS

**Class**

AdvertisementMaster

**StartOrbitNumber**

Orbit number at start of data granule.

Content Source: PGE

Reference Document: 420-TP-015-001, February 1997

**Class**

OrbitCalculatedSpatialDomain

**StateProvince**

The state or province of the address.

Content Source: DP

Domain:

Free Text

Reference Document: 420-TP-015-001, February 1997

**Class**

ContactAddress

**StopOrbitNumber**

Orbit number at end of data granule.

Content Source: PGE

Reference Document: 420-TP-015-001, February 1997

**Class**

OrbitCalculatedSpatialDomain

**StratumKeyword**

The name of a vertical location used to describe the locations covered by a collection (e.g. Stratosphere).

Content Source: DP

Domain:

Boundary Layer  
Chromosphere  
Core  
Corona  
Crust  
High Latitude Magnetosphere  
Inner Magnetosphere  
Ionosphere  
Magnetosphere (Other)  
Magnetotail  
Mantle  
Mesosphere  
Photosphere  
Stratosphere  
Troposphere

**Class**

StratumKeywordClass

**StratumMaximumAltitude**

The maximum altitude extent of the collection expressed in AltitudeDistanceUnits.

Content Source: DP

**Class**

StratumKeywordClass

## **StratumMinimumAltitude**

The minimum altitude extent of the collection expressed in AltitudeDistanceUnits.

Content Source: DP

### **Class**

StratumKeywordClass

## **StratumUnits**

The numeric units in which the StratumKeyword is expressed.

Content Source: DP

### **Class**

StratumKeywordClass

## **StreetAddress**

The street address used for mailing or physical addresses of organizations or individuals who serve as points of contact.

Content Source: DP; DAAC

Domain:

Free Text

Reference Document: 420-TP-015-001, February 1997

### **Class**

ContactAddress

## **SuggestedUsage**

This attribute describes how this collection or granule may be best used to support earth science/global change research.

Content Source: DP

Domain:

Free Text

Reference Document: 420-TP-015-001, February 1997

**Class**

ECSCollection

**SummaryProductDescription**

Textual description of the Summary Product.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

**Class**

SummaryProduct

**SummaryProductID**

The unique identifier of the summary product.

**Class**

SummaryProduct

**SummaryProductPointer**

Data model specific logical reference to the summary product.

Content Source: DSS

**Class**

SummaryProduct

**SummaryProductSize**

Size of Summary Product in MB.

Content Source: DSS

**Class**

SummaryProduct

## **SummaryProductType**

Type of Summary Product.

Content Source: DSS

Domain:

Summary

### **Class**

SummaryProduct

## **SWDateLastModified**

Date and time when the software was last modified.

Content Source: DP

### **Class**

AlgorithmPackage

## **SWVersion**

The actual version of the source code in the SSAP.

Content Source: DP

### **Class**

AlgorithmPackage

SSAPComponentAPVersion

## **TelephoneNumber**

Number of organization or individual who is point of contact. The general format of the telephone number includes country, area, and STD codes, as required for the full telephone number. Multi-extensions should be single entries rather than part of a single entry text.

Content Source: DAAC; DP

Reference Document: 420-TP-015-001, February 1997

**Class**

Telephone

**TelephoneNumberType**

The type of telephone number being provided in this instance of the phone number, in order to reach the organization or individual who serves as a point of contact. Voice number is used to speak to the org or individual, the TDD/TTY number which hearing-impaired can converse with org or indiv., or the fax/csimile number of the org's or indiv.

Content Source: DAAC; DP

Domain:

Voice  
TDD/TTY  
Facsimile

Reference Document: 420-TP-015-001, February 1997

**Class**

Telephone

**TemporalKeyword**

This attribute specifies a word or phrase which serves to summarize the temporal characteristics referenced in the collection, including phenomological events.

e.g. TemporalKeyword= "Mt. Pinotubo Eruption"

Content Source: DP

Domain:

Cambrian  
Carboniferous  
Cenozoic  
Cretaceous  
Devonian  
Eocene  
Holocene  
Jurassic  
Mesozoic  
Miocene  
Oligocene  
Ordovician

Paleocene  
Paleozoic  
Permian  
Pleistocene  
Pliocene  
Precambrian  
Quaternary  
Silurian  
Tertiary  
Triassic

Reference Document: 420-TP-015-001, February 1997

#### **Class**

TemporalKeywordClass

### **TemporalRangeType**

This attribute tells the system and ultimately the end user how temporal coverage is specified for the collection, granule, or event.

Content Source: DP

Domain:

Periodic - Regularly occurring periods of equal time.

Point In Time - A single date and time, usually used for in-situ measurements.

Continuous Range - A single continuous range of time with a discrete start date time and stop date time.

Discontinuous Multiple Range - A span of time with irregular temporal coverage gaps, requiring the use of multiple start/stop datetime pairs to denote the complete coverage.

Multiple Point In Time - Multiple occurrences of single date and time points.

Reference Document: 420-TP-015-001, February 1997

#### **Class**

ECSCollection

### **ThemeKeyword**

A keyword used to characterize subjects covered by the collection not expressed using existing keywords (e.g. Event).

Content Source: DP

**Class**

ThematicKeywordClass

**TimeType**

This attribute provides the time system which the values found in temporal subclasses represent.

Content Source: DP

Domain:

UTC - Coordinated Universal Time

UT - Universal Time

Reference Document: 420-TP-015-001, February 1997

**Class**

ECSCollection

**Title**

Indicates provider name, product name or service name.

Content Source: IOS, DP

Domain:

Free Text

Reference Document: 420-TP-015-001, February 1997

**Class**

AdvertisementMaster

**UniqueID**

Unique identifier of the advertisement.

Content Source: IOS

**Class**

AdvertisementMaster

## **UpperTitle**

Upper case of Title.

Content Source: IOS

### **Class**

AdvertisementMaster

## **UserCommentDocumentPointer**

Data model logical reference to User Comment Document.

Content Source: DSS

Reference Document: 420-TP-015-001, February 1997

### **Class**

CollectionUserCommentDocument

## **ValidationDocumentPointer**

Data model logical reference to Validation Document.

Content Source: DSS

### **Class**

ValidationDocument

## **VersionID**

Version identifier of the data collection.

Content Source: DP

Reference Document: 420-TP-015-001, February 1997

### **Class**

ECSCollection

## **VerticalCoordinateSystemType**

The type of VerticalCoordinateSystem (e.g. Altitude, or Depth).

### **Class**

VerticalCoordinateSystem

## **VerticalSpatialDomainType**

The domain type(s) which characterize the vertical extent of the granule.

Content Source: PGE

Domain:

Altitude

Depth

### **Class**

GranuleVerticalSpatialDomain

## **WestBoundingCoordinate**

The western-most coordinate of the limit of coverage expressed in longitude.

Content Source: PGE

### **Class**

GranuleBoundingRectangle

## **ZoneIdentifier**

The appropriate numeric or alpha code used to identify the various zones in this grid coordinate system. See domain values of coordinate system for constraints on the zone numbers.

Content Source: DP(collection)

Domain:

Universal Transverse Mercator (UTM) - 1<= UTM Zone Number <=60 for the Northern Hemisphere; -60 <= UTM Zone Number <= -1 for the Southern Hemisphere.

State Plane Coordinate System of 1927 - Domain values for identifier of the SPCS zone are four digit numeric codes and codes for State Plane Coordinate Systems.

State Plane Coordinate System of 1983

ARC Coordinate System - 1<= ARC System Zone Identifier <= 18

Other Grid System

Reference Document: 420-TP-015-001, February 1997

#### **Class**

ZoneIdentifierClass

### **2.1.4 Business Rules**

Business rules include definitions, facts, validation constraints, and formulas that specify the information system requirements to support business needs. Business rules are implemented by triggers, procedures, or constraints. For example, if you need to specify, that one attribute of a class must always have a numerical value greater than that of another column, you must use a business rule.

#### **Business Rule: Altitude**

The AltitudeDatum for the class CollectionAltitudeDomain is defined by class AltitudeSystemDefinition.

#### **Class(es)**

CollectionAltitudeDomain

GranuleAltitudeDomain

#### **Business Rule: AutomaticQualityFlag**

One flag from QAFlags must exist.

#### **Class(es)**

AutomaticQualityFlag

#### **Business Rule: Depth**

The DepthDatum for the class CollectionDepthDomain is defined by class CollectionAltitudeSystemDefinition.

**Class(es)**

CollectionDepthDomain

GranuleDepthDomain

**Business Rule: GRing**

Inner polygon must be completely contained within an outer ring.

**Class(es)**

CollectionExclusionGRing

CollectionExclusionGRingPoint

CollectionOuterGRing

CollectionOuterGRingPoint

GranuleExclusionGRing

GranuleExclusionGRingPoint

GranuleOuterGRing

GranuleOuterGRingPoint

**Business Rule: HoursofService**

The time type of the HoursofService is defined the attribute TimeType.

**Class(es)**

Contact

**Business Rule: MeasuredParameter**

The value of the attribute MeasuredParameter is derived from the list of ECSParameterKeywords associated with a collection.

**Class(es)**

MeasuredParameter

## **Business Rule: OperationalQualityFlag**

One flag from QAFlags must exist.

### **Class(es)**

OperationalQualityFlag

## **Business Rule: Orbit**

If Orbit exists as spatial footprint then must have OrbitCalculatedSpatialDomain.

### **Class(es)**

OrbitPolygons

## **Business Rule: PlatformInstrument**

Instruments are constrained to the list of Platforms defined for each Collection.

### **Class(es)**

Instrument

Platform

## **Business Rule: RangeDateTime**

To express a single date and time, the beginning and ending date and times must be the same.

### **Class(es)**

CollectionBeginningDate

CollectionBeginningTime

CollectionEndingDate

CollectionEndingTime

RangeBeginningDate

RangeBeginningTime

RangeEndingDate

RangeEndingTime

## **Business Rule: ScienceQualityFlag**

One flag from QAFlags must exist.

### **Class(es)**

ScienceQualityFlag

## **Business Rule: SensorInstrument**

Sensors are constrained to the list of Instruments defined for each collection.

### **Class(es)**

Instrument

Sensor

## **Business Rule: ShortName**

All ShortNames must be unique.

### **Class(es)**

AnalysisShortName

CampaignShortName

InstrumentShortName

OrganizationShortName

PlatformShortName

SensorShortName

ShortName